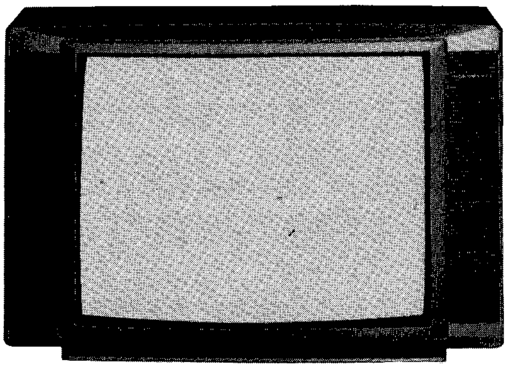
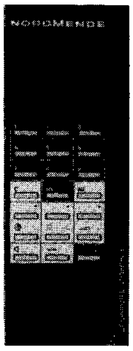
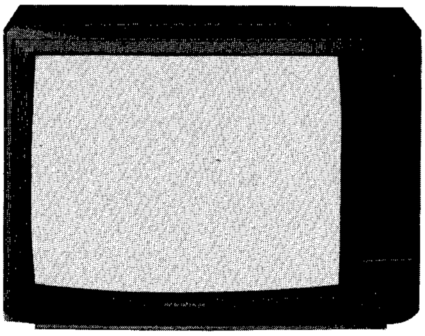
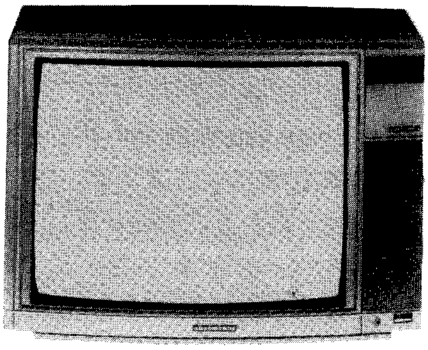
TECHNISCHER KUNDENDIENST

Service-Information









FFS-Chassis F15 (110°) F16 (90°) Mono

Color 3031	986.526 J / 987.526 J
Color 3035	986.529 J / 987.529 J
Color 3038	986.563 J / 987.535 J
Color 3135	986.525 A
Spectra 3201	987.527 A
Spectra 3205	987.520 A

NORDMENDE

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2305/87/40
F15/F16 Mono

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Chassisvarianten

Die Mono-Fernsehgeräte wurden beginnend mit dem Chassis F 15-01 (110°-Bildröhre) und F 16-01 (90°-Bildröhre) gefertigt. Während der Serie wurden die Geräte auf die Variante F 15-02 und F 16-02 umgestellt. Unterschiedsmerkmal ist ein geändertes Leiterplatten-Layout (Erzeugung der Spannung U 4' 13 V). Die Geräte Spectra 3201 und Spectra 3205 wurden gleich beginnend mit dem Chassis 02 gefertigt.

Bei der Chassisvariante F 15-03 und F 16-03 ist lediglich ein neues Chroma-Video-Modul eingebaut worden. Da alle anderen Teile gleich geblieben sind, ist für diese Chassisvariante nur das neue Chroma-Video-Modul in diesem Chassisbuch abgebildet.

Bei der Ersatzteilbestellung und bei der Schaltbildzuordnung sind unbedingt diese Varianten zu beachten. Die Varianten sind an dem Aufdruck auf der Lötseite des Chassis bei der Antennenbuchse zu erkennen. Aufdruck „Chassis 01" bei F 15-01/F 16-01, „Chassis 02" bei F 15-02/F 16-02 und „Chassis 03" bei F 15-03/F 16-03.

Varianti di telaio

All'inizio i televisori Mono sono stati fabbricati con il telaio F 15-01 (cinescopio 110°) e F 16-01 (cinescopio 90°). Durante la serie gli apparecchi sono stati adattati per la variante F 15-02 e F 16-02. Il carattere distintivo è il lay-out modificato della piastra (generazione della tensione U 4' 13 V). Già dall'inizio i televisori Spectra 3201 e Spectra 3205 sono stati dotati del telaio 02.

Nel caso della variante di telaio F 15-03 e F 16-03 é stato incorporato soltanto un nuovo modulo cromatico video. Dato che tutte le altre componenti non abbiano cambiate, il manuale di servizio contiene soltanto l'illustrazione di questo nuovo modulo cromatico video.

Per l'ordinazione dei pezzi di ricambio come pure per l'attribuzione dello schema di collegamento è indispensabile tener conto di queste varianti. Le varianti sono riconscocibili per la scritta sul lato delle saldature del telaio accanto alla presa d'antenna. Scritta "Chassis 01" per F 15-01/F 16-01, "Chassis 02" per F 15-02/F 16-02 e "Chassis 03" per F 15-03/F 16-03.

Chassis-Variables

The early production run of the mono -colour TV-sets started with the chassis F 15-01 (110°CRT) and F 16-01 (90°CRT). During production run the chassis changed to the variables F 15-02 and F 16-02. The differences will be noticed in the change of the p.c.b. lay-out (producing of the voltage U 4' 13 V). The models Spectra 3201 and Spectra 3205 have been fitted with the chassis variable 02 from production start on.

The chassis variables F 15-03 and F 16-03 have been fitted only with a new chroma-video-module. Since all other components and parts remain identical only the new chroma-video-module will be added in this service manual.

Please pay attention to the fact of the different chassis variables when ordering spare parts or when filing the service manuals. Investigate the variantes on the p.c.b. printed side near the antenna socket. The following markings may be found: "Chassis 01" with F 15-01/F 16-01, "Chassis 02" with F 15-02/F 16-02 and "Chassis 03" with F 15-03/F 16-03.

Bedienungshinweise (Sender speichern)

1. Serienmäßig ausgestattete Geräte mit „Single-Standard"

Die Mono-Farbfernsehgeräte mit dem Chassis F 15 und F 16 können serienmäßig folgende Fernsehnormen empfangen:

PAL B/G (z.B. Bundesrepublik Deutschland, Schweiz, Österreich, Italien)
SECAM B/G (z.B. DDR)

Die Normenumschaltung erfolgt automatisch. Zum Einstellen der Sender kann entweder der Sendersuchlauf (Taste —►•) benutzt werden oder die direkte Kanaleingabe.

Für die Kanaleingabe ist die Taste **«C»** so lange zu drücken, bis -- im Display erscheint. Falls das Display **C-** anzeigt, handelt es sich um ein Gerät mit „Multistandard" (siehe Punkt 2). Wenn -- erscheint, dann mit den Tasten **«1...10»** die Kanalnummer eingeben. (Die Taste **«10»** ist für die Ziffer Null zu benutzen. Bei den Kanälen 2-9 ist zuerst die Taste **«10»** zu drücken und dann die Kanalnummer).

Zum Speichern die gewünschte Programmtaste so lange drücken, bis der Punkt im Display nicht mehr blinkt.

Beispiel; Kanal 32 auf Programmtaste 1: **«C, 3, 2, 1»**. Jeder Befehl muß innerhalb von 4 Sekunden ausgeführt werden! Falls nicht, ist die komplette Eingabe zu wiederholen.

Zur Eingabe von **Kabel-Kanälen** ist nach dem Drücken der Taste **«C»** (-- muß erscheinen) die Taste **«C»** erneut zu drücken (**CC** erscheint). Anschließend ist die Kabel-Kanalnummer einzutippen.

Beispiel; Kabel-Kanal S 2 auf Programmtaste 3: **«C, C, 10, 2, 3»**

Es können bis zu 39 Sender gespeichert werden. Die Programmplätze 11-39 werden wie folgt gewählt:

z.B. Programm 11: Taste **10, 1**
Programm 23: Taste **10, 10, 3**
Programm 39: Taste **10, 10, 10, 9**

Die Programmplätze 10, 20 und 30 sind für die Wiedergabe eines Videorecorders vorgesehen, bei denen die Zeitkonstante auf Recorder-Wiedergabe umgeschaltet wird.

Istruzioni per l'uso (memorizzazione delle emittenti)

1. Televisori dotati di serie con "Single-Standard"

I televisori a colori Mono con il telaio F 15 o F 16 sono muniti in serie per ricevere le seguenti norme televisive:

PAL B/G (ad esempio: Rep. Fed. Tedesca, Svizzera, Austria, Italia)
SECAM B/G (ad esempio Rep. Dem. Tedesca)

La commutazione da uno standard all'altro è automatica. Per la sintonizzazione dell'emittente si può utilizzare la ricerca automatica delle stazioni (tasto —►•) o selezionare direttamente il canale. In quest'ultimo caso, premere il tasto **«C»** finquando -- appare sul display. Se il display visualizza **C-** si tratta di un televisore "Multistandard" (vedi il punto 2). Se -- appare sul display si può selezionare il numero del canale mediante i tasti **«1...10»** (il tasto **«10»** dovrà essere utilizzato per la cifra "zero"; per programmare i canali 2-9 bisogna anzitutto premere il tasto **«10»** e poi selezionare il numero del canale).

Per la memorizzazione, premere il tasto di programma desiderato finquando il punto cessa di lampeggiare sul display. Esempio: per associare il canale 32 al tasto di programma 1 bisogna premere i tasti **«C, 3, 2, 1»**. Non lasciar trascorrere più di 4 secondi tra l'azionamento di due tasti, altrimenti si dovrà ripetere la programmazione.

Per la programmazione di **canali trasmessi via cavo** bisogna azionare due volte il tasto **«C»** (il display deve visualizzare **Ch--** dopo il primo azionamento e **CC--** dopo il secondo) e poi selezionare il numero del canale. Esempio: per associare il canale TV-cavo S2 al tasto di programma 3 bisogna premere i tasti **«C, C, 10, 2, 3»**.

Si possono memorizzare fino a 39 emittenti. Procedura per la selezione delle posizioni programmabili 11-39 (esempio):

programma 11: tasti **10** e **1**
programma 23: tasti **10, 10** e **3**
programma 39: tasti **10, 10, 10** e **9**

Le posizioni programmabili 10, 20 e 30 sono previste per la riproduzione da un videoregistratore (la loro costante di tempo è commutata per riproduzione da registratori).

Operating Instructions (Channel storage)

1. Series fitted "Single-Standard" sets

The mono-CTV-sets fitted with the chassis F 15 and F 16 are capable of receiving the following TV-standards:

PAL-B/G (e.g. Federal Republic of Germany, Switzerland, Austria, Italy).
SECAM-B/G (e.g. DDR)

Standard switch-over is carried out automatically. The channels can either be set by automatic search (button —►•) or direct channel-selection.

For channel-selection press button **«C»** until -- is being displayed. In case, only a **C-** is being displayed then the set is a model with "Multi-Standard" (see point 2). When the -- appears set the channel number with the buttons **«1...10»**. (Set the zero with button number **«10»**. Set a zero with button **«10»** in front of each channel-number 2...9 and then the channel-number).

For storage of the desired channel press the program-button until the displayed dot stops to blink.

Sample; select channel 32 on program-place 1: **«C, 3, 2, 1»**. Each command has to be carried out within 4 seconds! If not, the complete input has to be repeated.

For selection of **"Cable-Channels"** it is required, to press button **«C»** (-- must be indicated) and **«C»** be pressed again so (**CC** is indicated). Followed by the selection of the cable-channel number.

Sample; Cable-channel S 2 on program no. 3: **«C, C, 10, 2, 3»**.

It is possible to store up to 39 channels. The program-places 11...39 are being selected as follows:

e.g. program 11: button **10, 1**
program 23: button **10, 10, 3**
program 39: button **10, 10, 10, 9**

The program places 10, 20 and 30 are reserved for AV-playback with a video-recorder. Only in this channels will the time-constant be switched on for video-playback.

2. Geräte mit „Multistandard"

Die Mono-Farbfernsehgeräte mit dem Chassis F 15 und F 16 können auf „Multistandard" (zusätzliche Normen NTSC und SECAM L) nachgerüstet werden. Bei diesen Geräten werden die verschiedenen Fernsehnormen bei der direkten Kanalwahl angewählt (nicht bei Sendersuchlauf). Dazu die Taste **«C»** so lange drücken, bis **C-** im Display erscheint. Erscheint --, dann handelt es sich um ein Gerät mit „Single-Standard" oder es ist nicht auf „Multistandard" programmiert worden (siehe Abschnitt „Service-Mode"). Erscheint **C-**, dann mit einer der Ziffertasten die Norm wählen:

2. Apparecchi "Multistandard"

I televisori a colori Mono con il telaio F 15 o F 16 possono esser corredati per "Multistandard" (norme addizionali NTSC e SECAM L). Con questi modelli diversi standard TV vengono impostati mediante selezione diretta del canale (non con la ricerca automatica delle stationi). Perciò, premere il tasto **«C»** finquando il display visualizza **C-**. Se appare --, si tratta di un televisore "Single-Standard" o che non è stato programmato per "Multistandard" (vedi il capitolo "Modo Service"). Dopo la visualizzazione di **C-**, lo standard desiderato può essere selezionato mediante uno dei tasti numerici (vedi tavola pagina 4):

2. Sets with "Multi-Standard"

The mono-CTV-sets containing the chassis F 15 and F 16 can be extended to "Multi-Standard" function (additionally NTSC and SECAM L standard). With these sets the different TV-standards are being selected during direct channel selection (not with automatic channel search). Press the button **«C»** until the display shows **C-**. In case -- is being displayed, then the set is a model having "Single-Standard" or the set has not been programmed for "Multi-Standard" (see section "Service-Mode"). If **C-** is displayed, then select the standard with one of the buttons **«1...5»** (see table on page 4).

Taste	Norm	Display	
		Standardkanäle	Kabel-Kanäle
1	PAL B/G (z.B. Bundesrepublik Deutschland, Schweiz, Österreich, Italien) SECAM B/G (z.B. DDR) NTSC (amerikanische Sender)	**CP**	**cP**
2	SECAM L (z.B. Frankreich)	**CF**	**CF**
Für Sonderfälle 4	SECAM L-Sendungen auf B/G-Kanälen	**FC**	**Fc**
5	PAL-Sendungen auf französischen Kanälen (für zukünftige Anwendungen)	**PC**	**PC**

Tasto	Standard	Display	
		Canali standard	Canali TV-cavo
1	PAL B/G (ad esempio Rep. Fed. Tedesca, Svizzera, Austria, Italia) SECAM B/G (ad esempio Rep. Dem. Tedesca) NTSC (emittenti americane)	**CP**	**cP**
2	SECAM L (ad esempio Francia)	**CF**	**CF**
Casi speciali **4**	emissioni SECAM L su canali B/G	**FC**	**Fc**
5	emissioni PAL su canali francesi (per applicazioni future)	**PC**	**PC**

Button	Standard	Display	
		Standard Channels	Cable Channels
1	PAL B/G (e.g. Federal Republik of Germany, Switzerland, Austria, Italy) SECAM-B/G (e.g. DDR) NTSC (American transmitters)	**CP**	**cP**
2	SECAM-L (e.g. France)	**CF**	**CF**
For special service **4**	SECAM-L transmission on B/G-channels	**FC**	**Fc**
5	PAL transmission on French channels (for future applications)	**PC**	**PC**

Danach die Kanalziffer eingeben. Zum Speichern des Senders die gewünschte Programmtaste so lange drücken, bis im Display der Punkt nicht mehr blinkt.
Beispiel PAL, Kanal 42 auf Programmplatz 2: **«C, 1, 4, 2, 2»**. Zwischen zwei Bedienungsschritten darf nicht länger als 4 Sekunden gewartet werden, sonst muß der Vorgang von Anfang an wiederholt werden.
Zum Anwählen der **Kabelkanäle S1 – S20** ist die Taste «C» nach der Normwahl erneut zu drücken.
Beispiel SECAM L, Kanal S12 auf Programmplatz 8:
«C, 2, C, 1, 2, 8».

Service-Hinweise

1. Geräterückwand abnehmen (Color 3031/3035/3135 Spectra 3205)

Entrare poi il numero del canale. Per memorizzare la stazione, premere il relativo tasto di programma finquando il punto cessa di lampeggiare sul display.
Esempio: per associare il canale 42 PAL alla posizione programmabile 2 bisogna premere **«C, 1, 4, 2, 2»**. Non lasciar trascorrere più di 4 secondi tra l'azionamento di due tasti, altrimenti si dovrà ripetere la programmazione.
Per impostare i **canali trasmessi via cavo S1 – S20** si deve premere nuovamente il tasto «C» dopo la selezione dello standard.
Esempio: per associare il canale S12 SECAM L alla posizione programmabile 8 bisogna premere **«C, 2, C, 1, 2, 8»**.

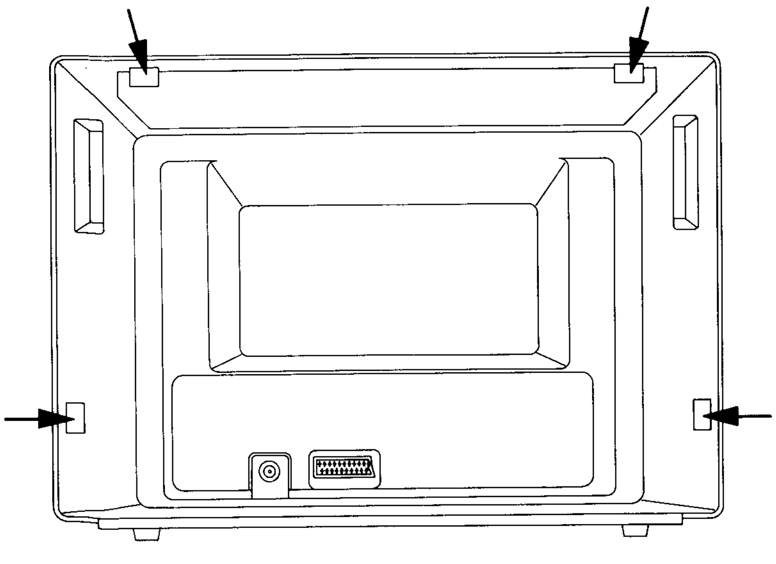
Istruzioni per i servizi tecnici

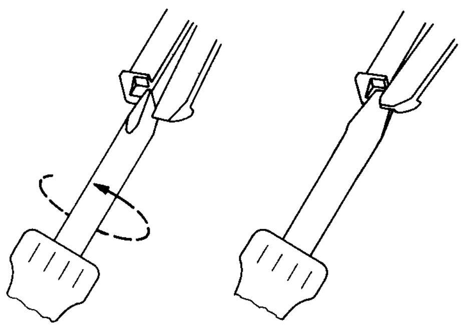
1. Rimuovere la parete posteriore dell'apparecchio (Color 3031/3035/3135 Spectra 3205)

Afterwards select the channel-numbers. For storage of the channel press the desired program button until dot stops blinking.
Sample PAL, channel 42 onto program-place 2 **«C, 1, 4, 2, 2»**. Each command has to be carried out within 4 seconds, otherwise the complete input has to be repeated.
For selection of the **cable-channels S1 ... S20** the button «C» has to be pressed again after standard selection.
Sample SECAM L, channel S12 onto program-place 8:
«C, 2, C, 1, 2, 8».

Service-Instructions

1. Rear-cover removal (Color 3031/3035/3135 Spectra 3205)

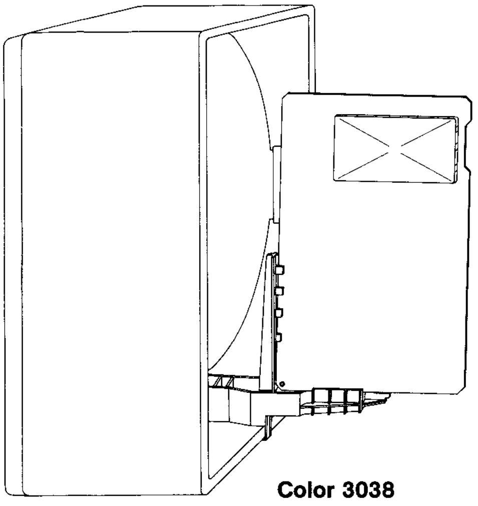




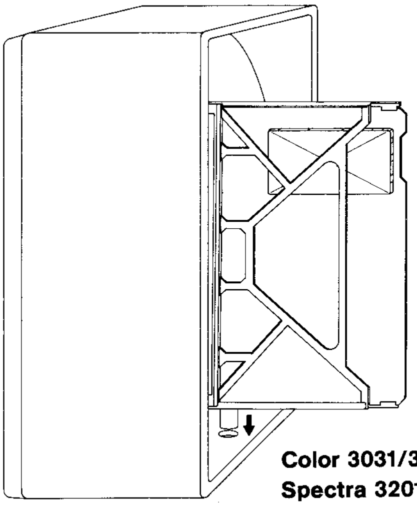
2. Service-Stellung

2. Posizione per servizio assistenza

2. Service-Position



Color 3038



Color 3031/3035/3135
Spectra 3201/3205

3. Service-Mode

Der „Service-Mode” ist eine Betriebsart des Fernsehgerätes, bei der der Techniker das Programm des Bedienteil-Mikroprozessors in einigen Punkten beeinflussen kann. Dieses ist erforderlich:

a) nach dem Wechseln des IC's MDA 2061, Position IR 73 (EEPROM),
b) zum Umprogrammieren des Gerätes von „Single-Standard” auf „Multistandard”,
c) zum Umschalten des Display's von deutschen auf internationalen (englischen) Funktionssymbolen.

Zum Einschalten des „Service-Modes” ist das Gerät zuerst mit dem Netzschalter auszuschalten. Dann die beiden Lautstärketasten «+» und «—» **am Fernsehgerät** drücken und gleichzeitig das Gerät mit dem Netzschalter wieder einschalten. Die Lautstärketasten so lange gedrückt halten, bis das Display aufleuchtet. Nach dem Loslassen der Tasten erscheint nach ca. 8 Sekunden die Anzeige -· . Wenn nicht, ist der Vorgang von Anfang an zu wiederholen. Erscheint im Display -· , dann können mit der Fernbedienung folgende Funktionen umgeschaltet werden. Im Display wird durch Aufleuchten von einzelnen Segmenten der jeweilige Funktionszustand angezeigt:

3. Modo "Service"

L'impostazione del televisore sul modo "Service" permette al tecnico di modificare alcuni punti del programma registrato nel microprocessore del tuner. Queste operazioni sono necessarie

a) dopo la sostituzione di un circuito integrato MDA 2061, posizione IR 73 (EEPROM);
b) per la programmazione del modo "Multistandard" in un apparecchio programmato per "Single-Standard";
c) per la visualizzazione sul display di simboli funzionali internazionali (inglesi) al posto di quelli tedeschi.

Per attivare il modo "Service" bisògna anzitutto disinserire l'apparecchio azionando l'interruttore di rete. Premere poi i due tasti di regolazione volume «+» e «—» **sul televisore** e riaccendere contemporaneamente l'apparecchio mediante l'interruttore di rete. Attendere poi che il display si sia acceso e rilasciare i tasti di regolazione del volume: dopo circa 8 secondi deve apparire il messaggio -· . Nel caso contrario si dovrà ripetere l'operazione dall'inizio. Le commutazioni seguenti possono essere effettuate mediante il telecomando quando il messaggio -· è visualizzato sul display. La funzione impostata viene evidenziata sul display mediante l'accensione di singoli segmenti:

3. Service-Mode

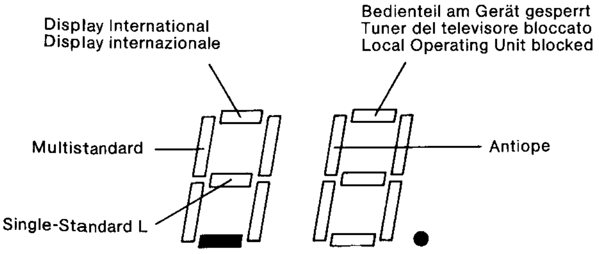
The "Service-Mode" is an operational feature of the set, in which the technician has the possibility to change the program of the microprocessor of the operating unit in a few oparations:

a) After replacement of the IC MDA 2061, position IR 73 (EEPROM),
b) For programming of the set from "Single-Standard" to "Multi-Standard",
c) To switch-over the display characters from German to international (English) characters.

In order to switch the set into "Service-Mode" it is necessary to switch the set off with the mains-switch. Then press both local volume buttons «+» and «—» **on the set** simultaneously and additional switch the set on again with the mains-switch and keep the volume buttons depressed until the display is active. Let loose the volume buttons. After 8 seconds the display indicates -· . If not, repeat the foregoing procedure. If -· is being displayed, then the following functions can be switched over. Single segments of the display show the corresponding function condition:

Taste	Normalfunktion	Funktion im „Service-Mode”
1	Programm 1	Display International (Englisch)
2	Programm 2	Display Deutsch
3	Programm 3	Single-Standard B/G
4	Programm 4	Single-Standard L (Frankreich)
5	Programm 5	Multistandard
6	Programm 6	Display-Test (für ca. 5 Sek.)
7	Programm 7	Antiope Ein (Videotext Aus)
8	Programm 8	Videotext Ein (Antiope Aus)

Tasto	Funzione normale	Funzione in modo "Service"
1	Programma 1	Display internazionale (inglese)
2	Programma 2	Display tedesco
3	Programma 3	Single-Standard B/G
4	Programma 4	Single-Standard L (Francia)
5	Programma 5	Multistandard
6	Programma 6	Controllo display (per circa 5 sec.)
7	Programma 7	Antiope acceso (Televideo spento)
8	Programma 8	Televideo acceso (Antiope spento)


Display International
Display internazionale
Bedienteil am Gerät gesperrt
Tuner del televisore bloccato
Local Operating Unit blocked
Multistandard
Antiope
Single-Standard L

Button	Normal Function	Function in "Service-Mode"
1	Program 1	Display International (English)
2	Program 2	Display German
3	Program 3	Single-Standard B/G
4	Program 4	Single-Standard L (France)
5	Program 5	Multi-Standard
6	Program 6	Display-Test (approx 5 sec.)
7	Program 7	Antiope On (Teletext Off)
8	Program 8	Teletext On (Antiope Off)

Nach dem Umschalten der Funktionen ist es unbedingt erforderlich, das Gerät mit der Fernbedienung auszuschalten. Nur dann werden die gewünschten Funktionen gespeichert und der „Service-Mode” ausgeschaltet.

Spegnere sempre il televisore mediante il telecomando dopo la commutazione delle funzioni: solo cosi si può memorizzare la funzione desiderata e disinserire il modo "Service".

After the function has being switched to it's desired mode it is necessary to switch the set off by the remote control. Thus, the desired functions are being stored and simultaneously the "Service-Mode" is switched off.

4. Austausch des IC's MDA 2061, Position IR 73 (EEPROM)

Nach dem Einbau eines neuen MDA 2061 verhält sich das Fernsehgerät wie folgt:

a) Das Display zeigt deutsche Funktionssymbole.

b) Alle Programmspeicher haben Kanal Ch 00 gespeichert.

c) PAL B/G und SECAM B/G (DDR) können empfangen werden = Single-Standard [nicht NTSC und SECAM L (Frankreich) = Multistandard].

Es müssen deshalb alle Sender neu gespeichert werden. Bei allen Geräten, die für Multistandard oder SECAM L (Frankreich) nachgerüstet wurden, muß unbedingt im „Service-Mode" auf Multistandard umgeschaltet werden (siehe Abschnitt „Service-Mode"). Diese Geräte sind an dem Submodul AM/FM 5101 **(Abb. 1)**, zu erkennen, welches in das Tonmodul eingelötet ist.

Soll das Display internationale (englische) Funktionssymbole anzeigen, dann erfolgt die Umschaltung ebenfalls im „Service-Mode".

4. Sostituzione del circuito integrato MDA 2061, posizione IR 73 (EEPROM)

Funzioni impostate nel televisore dopo il montaggio di un nuovo circuito integrato MDA 2061:

a) Il display visualizza i simboli tedeschi.

b) Tutte le memorie di programma hanno memorizzato il canale "Ch 00".

c) Si possono ricevere emissioni a standard PAL B/G e SECAM B/G (Rep. Dem. Tedesca) = Single-Standard [non NTSC e SECAM L (Francia) = Multistandard].

Tutte le stazioni devono quindi essere nuovamente memorizzate. I televisori allestiti per "Multistandard" o SECAM L (Francia) devono essere assolutamente commutati su "Multistandard" in modo "Service" (vedi il capitolo "Modo Service"). Questi televisori sono caratterizzati rispettivamente dal modulo AM/FM 5101 **(fig. 1)**, sul quale è saldato il modulo audio.

Se il display deve visualizzare dei simboli funzionali internazionali (inglesi), anche questa commutazione viene effettuata in modo "Service".

4. Replacement of the IC MDA 2061, in position IR 73 (EEPROM)

After replacement of the MDA 2061, the set will react as follows:

a) The display shows German function symbols.

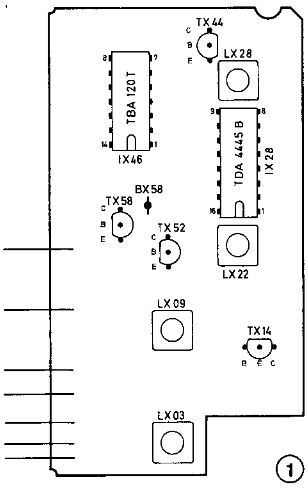
b) The program storages have all stored Ch 00.

c) PAL B/G, and SECAM B/G (DDR) can be received in "Single-Standard", not NTSC and SECAM L (France) = Multi-Standard.

Thus, it is necessary that all transmitters are being stored newly again. With all sets which have been modified to Multistandard or to SECAM L (France) it is required to switch - during "Service-Mode" - over to Multi-Standard (see section "Service-Mode").

These sets can be recognized by the sub-module AM/FM 5101 **(fig. 1)** which is soldered onto the sound module.

When the function symbols should be displayed international (English), then the switch-over has to be carried out in the "Service-Mode".



①

5. Zeilentrafo wechseln

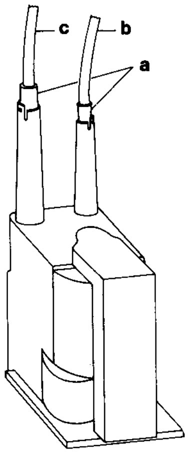
Beim Wechseln des Zeilentrafos die beiden Kabelhalter **(a)**, das Fokuskabel **(b)** und das Hochspannungskabel **(c)** abziehen, da neue Zeilentrafos ohne Halter und Kabel geliefert werden.

5. Cambiamento del trasformatore di riga

Cambiando il trasformatore di riga, togliere i due fermacavi **(a)**, il cavo fuoco **(b)** e il cavo alta tensione **(c)** dato che i nuovi trasformatori di riga vengono forniti senza supporti e cavi.

5. Line transformer replacement

The new replacement transformer is supplied without the cable clips and cables, therefore keep the cable clips **(a)**, the focus cable **(b)** and the EHT-cable **(c)** from the original transformer.



②

Schaltbildhinweise

U1 7V ▷ zum Verbraucher

▶U1 7V von der Spannungsquelle

△1 ... △21

Anschlüsse der Euro-AV-Buchse.

◇1 ... ◇13

Anschlüsse der Stiftleiste BV 06 (Videotext).

◇14 ... ◇17

Anschlüsse der Stiftleiste BV 07 (Videotext).

D 1 ... Z 7

Meßpunkte auf den gedruckten Platinen.

X = nicht angeschlossen

⚠ Sicherheitszeichen

Diese Bauteile sind bei Reparaturen nur durch die vom Hersteller geprüften und angegebenen Originalteile zu ersetzen, um die vorgesehene Betriebssicherheit zu gewährleisten.

Alle nicht gekennzeichneten Dioden 1 N 4148

Achtung!

Bildröhre und Ablenksystem sind eine festverbundene Einheit und vom Werk optimal eingestellt.

Folgende Punkte sind unbedingt zu beachten:

Keine Veränderungen der Halskomponenten vornehmen.

Keine versiegelten Schrauben am Ablenksystem lösen.

Jeglichen Zugriff (Transport) an den Halskomponenten unterlassen.

Die in diesem Gerät entstehende Röntgenstrahlung ist ausreichend abgeschirmt. Beschleunigungsspannung: max. 26,5 kV.

Änderungen vorbehalten.

Indicazione sullo schema

U1 7V ▷ verso utilizzatore

▶U1 7V dalla sorgente di tensione

△1 ... △21

Collegamenti della presa Peritelevisione.

◇1 ... ◇13

Colleg. della lista presa BV 06 (Televideo).

◇14 ... ◇17

Colleg. della lista presa BV 07 (Televideo).

D 1 ... Z 7

Punti di misura sulle piastre strampate.

X = non collegate

⚠ Contrassegno di sicurezza.

Nel caso di riparazione questi elementi devono venire sostituito soltanto con delle parti di ricambio originali controllati e designati da parte del fabbricante per garantire la sicurezza di funzionamento prevista.

Tutti i diodi non contressegnati 1 N 4148.

Attenzione!

Il cinescopio ed il giogo di deflessione formano un'unità solidamente collegata e sono regolati in modo ottimo dalla fabbrica.

E'indispensabile osservare le istruzioni seguenti:

Non effettuare alcuna modifica sui componenti a collare.

Non togliere le viti sigillate sul giogo di deflessione.

Per il trasporto mai sollevare il cinescopio dal giogo.

Le radiazioni X generate in questo televisore sono sufficientemente schermate. Tensione di accelerazione: max. 26,5 kV.

Con riserva di modifiche.

Circuit notes

U1 7V ▷ to load circuit

▶U1 7V from voltage source

△1 ... △21

Connections of the Eurosocket.

◇1 ... ◇13

Connections of the socket strip BV 06 (Teletext).

◇14 ... ◇17

Connections of the socket strip BV 07 (Teletext).

D 1 ... Z 7

Test points on the printed boards.

X = not connected

⚠

Components designated by the safety symbol should, when necessary for repair, only be replaced by original parts produced and proofed by the manufacturer. Only then can the original operational safety be guaranteed.

Diodes not designated all 1 N 4148

Note!

Cathode ray tube and deflection system are a complete fixed unit which is optimally adjusted at the factory.

It is essential that the following points be observed:

Do not alter the position of the neck components.

Do not slaken any sealed screws.

Do not lift or hold the unit by the neck components.

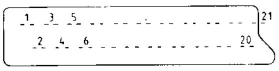
The X-ray radiation generated by this receiver is adequately screened. Acceleration voltage: max. 26,5 kV.

Subject to modification.

△ = Euro-AV-Buchse
Presa Peritelevisione
Eurosocket

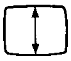
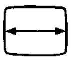
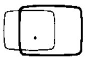
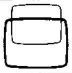
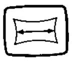
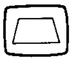
△1	NF/AF 'R' ○→ BF 'D' 0,5 V RMS	△12	X
△2	NF/AF 'R' ○← BF 'D' 0,5 V RMS	△13	⊥ Video R
△3	NF/AF 'L' ○→ BF 'S' 0,5 V RMS	△14	X
△4	⊥ NF/AF BF	△15	Video R ○← 0,7 V RMS
△5	⊥ Video B	△16	Blanking ○← Spegnim. Video
△6	NF/AF 'L' ○← BF 'S' 0,5 V RMS	△17	⊥ Video
△7	Video B ○← 0,7 V RMS	△18	⊥ Blanking Spegnimento
△8	Mode AV ≙ 12 V	△19	Video ○→ 1 V_{pp}/75 Ω
△9	⊥ Video G/V	△20	Video ○← 1 V_{pp}/75 Ω
△10	X	△21	⊥ Chassis Telaio
△11	Video G/V ○← 0,7 V RMS		V RMS = V_{eff} $V_{pp} = V_{ss}$

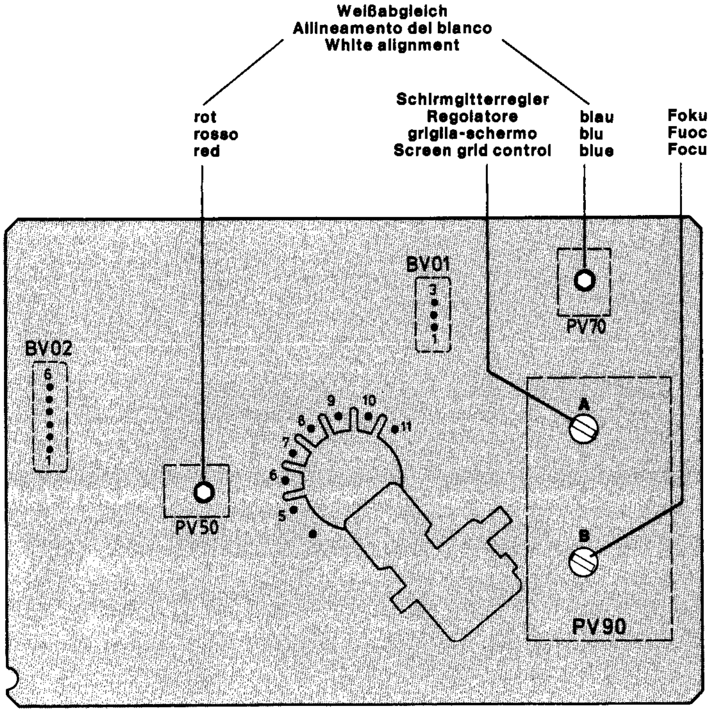
Euro-AV-Buchse
Presa Peritelevisione
Eurosocket



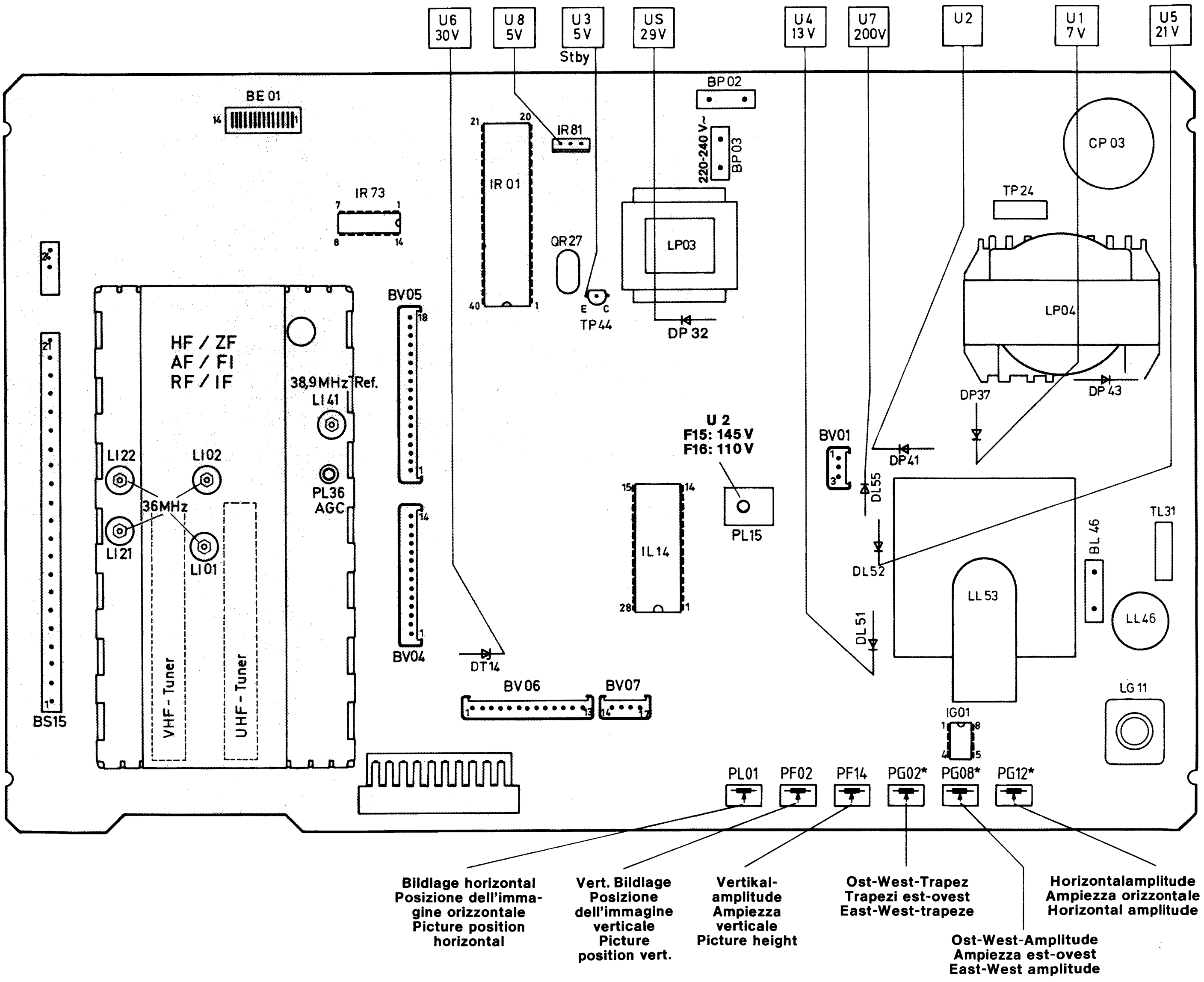
Anschlußseite / Lato collegamento / Connection side

Einstellarbeiten / Operazioni di messa a punto / Initial adjustment

Einstellung Taratura Adjustment	Position Posizione	einstellen auf regolare su adjust to	Hinweise Avvisi Notes
Hauptspannung Tensione principale Principale voltage	PL 15	F15: 145 V ± 1 V F16: 110 V ± 1 V	
Vertikalamplitude Ampiezza verticale Vertical amplitude	PF 14		
Horizontalamplitude Ampiezza orizzontale Horizontal amplitude	PG 12		nicht bei non con F16 not with
Horizontalposition Posizione orrizontale Horizontal position	PL 01		nach Einstellung Vertikalposition korrigieren dopo la taratura correggere la posizione verticale after setting, readjust vertical position
Vertikalposition Posizione verticale Vertical position	PF 02		
Ost-West-Amplitude Ampiezza est/ovest East-West amplitude	PG 08		nicht bei non con F16 not with
Ost-West-Trapez Trapezi est/ovest East-West trapeze	PG 02		nicht bei non con F16 not with
Schirmgitterspannung Tensione griglia schermo Screen grid voltage	PV 90 A	Katode mit höchster Spannung auf 185 V– einstellen Regolare il catodo con la tensione più alta su 185 V– Adjust the cathode with the highest voltage to 185 V DC	◑ + ☼ = min. Emitter messen Emittitore misurare TV 50, TV 60, TV 70 measure
Fokusspannung Tensione focale Focus voltage	PV 90 B	Optimale Bildschärfe Definizione ottimale dell'immagine Optimum sharpness	
Weißabgleich Taratura del bianco White alignment	PV 50 PV 70		FUBK-Sendertestbild Monoscopio del trasmettitore Philips-test pattern ◑ + ☼ = normal


Weißabgleich
Allineamento del bianco
White alignment
rot
rosso
red
Schirmgitterregler
Regolatore
griglia-schermo
Screen grid control
blau
blu
blue
Fokus
Fuoco
Focus
BV01
3
1
BV02
6
1
PV70
PV50
PV90
A
B
5
6
7
8
9
10
11

Bildrohranschluß-Platine
Piastra zoccolo cinescopio 592.977
P.C.B. CRT socket
Lötseite – Lato saldature – Soldered side


U6 30V
U8 5V
U3 5V Stby
US 29V
U4 13V
U7 200V
U2
U1 7V
U5 21V
BE01
BP02
220-240 V~
BP03
IR81
IR01
IR73
CP03
TP24
QR27
LP03
LP04
TP44
DP32
BV05
HF / ZF
AF / FI
RF / IF
38,9MHz Ref.
LI41
PL36
AGC
LI22
LI02
36MHz
LI21
LI01
VHF - Tuner
UHF - Tuner
BS15
U 2
F15: 145 V
F16: 110 V
PL15
IL14
BV01
DP41
DP37
DP43
DL55
DL52
DL51
LL53
BL46
TL31
LL46
LG11
IG01
BV04
DT14
BV06
BV07
PL01
PF02
PF14
PG02*
PG08*
PG12*
Bildlage horizontal
Posizione dell'immagine orizzontale
Picture position horizontal
Vert. Bildlage
Posizione dell'immagine verticale
Picture position vert.
Vertikal-amplitude
Ampiezza verticale
Picture height
Ost-West-Trapez
Trapezi est-ovest
East-West-trapeze
Ost-West-Amplitude
Ampiezza est-ovest
East-West amplitude
Horizontalamplitude
Ampiezza orizzontale
Horizontal amplitude

Grundplatte
Piastra di base F 15, F 16
Basic P.C.B.
Bestückungsseite – Lato componenti – Component side

***nicht bei**
non con F16
not with

Abgleich Chroma-Video-Modul

1. PAL
PAL-Farbbalkensignal über den Anteneingang einspeisen.

1.1 PAL 4,43 MHz-Referenz-Oszillator

1.1.1 Eine Brücke von Pin 17 nach Pin 9 (Masse) des TDA 4556 einlöten. Dadurch wird die Farbe zwangsweise eingeschaltet und die Synchronisation des PAL-Referenz-Oszillators abgeschaltet.

1.1.2 Einen 1 kΩ-Widerstand von Pin 13 (+ 12 V) nach Pin 28 des TDA 4556 legen. Dadurch wird fest auf PAL geschaltet.

1.1.3 Mit dem Trimmer CC 12 auf möglichst langsames Durchlaufen der Farben einstellen.

1.1.4 Die Brücke und den 1 kΩ-Widerstand wieder entfernen.

1.2 PAL-Laufzeitdecoder
FuBK-Testbild anlegen, geringe Helligkeit einstellen. LC 17 (PAL-Phase) und PC 18 (PAL-Amplitude) wechselweise so einstellen, daß in den Unbuntfeldern (+ V ± U) bzw. im Farbbalken purpur keine Jalousieeffekte (Paarigkeit) auftreten.

1.3 4,43 MHz-Farbträger-Falle*
Oszilloskop mit dem Emitter von TV 60 auf der Bildrohranschluß-Platine verbinden. Mit LV 56 den 4,43 MHz-Farbträger auf Minimum einstellen.

1.4 5,5 MHz-Tonträger-Falle
Oszilloskop an den Emitter von TV 60 auf der Bildrohranschluß-Platine anschließen. Mit LV 64 Tonträger auf Minimium einstellen.

2. SECAM
SECAM-Farbbalkensignal über den Antenneneingang einspeisen.

2.1 Identifikation
Zum Großabgleich mit LC 14 Farbbalken auf flackerfreie Wiedergabe einstellen. Für den Feinabgleich ein extrem hochohmiges Voltmeter an Pin 21 des TDA 4556 anschließen. Es empfiehlt sich, die Spannung nicht gegen Masse zu messen, sondern gegen einen Spannungsteiler, dessen Anzapf auf ca. 6 V liegt. Mit LC 14 auf maximale Spannung abgleichen.

2.2 B-Y-Demodulator
Oszilloskop an Pin 3 des TDA 4556 (B-Y-Ausgang) anschließen. Mit LC 05 die farblosen Balken des Farbbalken-Testbildes auf das Niveau der Zeilenaustastlücke einstellen **(Abb. 1)**.

2.3 R-Y-Demodulator
Oszilloskop an Pin 1 des TDA 4556 (R-Y-Ausgang) anschließen. Mit LC 01 die farblosen Balken des Testbildes auf das Niveau der Zeilenaustastlücke einstellen **(Abb. 2)**.

2.4 Glockenfilter
SECAM-Signal videomäßig über die Euro-AV-Buchse (Pin 20) einspeisen. Oszilloskop an Pin 15 des TDA 4556 anschließen. Mit LC 23 gleiche Amplituden des Farbbalkensignals einstellen.

2.5 4,25 MHz-Farbträger-Falle*
Oszilloskop mit dem Emitter von TV 60 auf der Bildrohranschluß-Platine verbinden. Mit LV 57 den 4,25 MHz-Farbträger auf Minimum einstellen.

3. Kontrast (Spitzenweiß)*
Testbildgenerator anschließen und Grünfläche einspeisen. Oszilloskop an die Bildröhrenkatode Grün (Pin 6) anschließen. Mit der Fernbedienung Farbe auf den Wert 50 regeln, Helligkeit auf 50 und Kontrast auf 70. Mit PV 38 das Signal an der Bildröhre auf 60 Vss (Austastniveau bis Grün) einstellen.

4. Strahlstrom*
Mit Testbildgenerator Weißfläche einspeisen. Oszilloskop an die Bildröhrenkatode Grün (Pin 6) anschließen. Mit der Fernbedienung Farbe auf den Wert 50 regeln, Helligkeit auf 50 und Kontrast auf 99. Mit PV 44 das Signal an der Bildröhre auf 60 Vss einstellen.

***nur bei F 15-03/F 16-03**

Taratura del modulo crominanza video

1. PAL
Alimentare un segnale di barre di colore PAL attraverso l'entrata d'antenna.

1.1 Oscillatore di riferimento PAL 4,43 MHz

1.1.1 Saldare un ponticello dal pin 17 al pin 9 (massa) del TDA 4556. In questo modo, il colore viene inserito automaticamente mentre la sincronizzazione dell'oscillatore di riferimento PAL è disinserita.

1.1.2 Sistemare una resistenza da 1 kohm tra il pin 13 (+ 12 V) ed il pin 28 del TDA 4556. L'apparecchio è ora impostato per il modo PAL.

1.1.3 Mediante il trimmer CC 12 regolare in modo che il passaggio dei colori sia il più lento possibile.

1.1.4 Togliere la resistenza da 1 kohm e il ponticello.

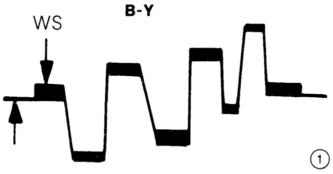
1.2 Decoder tempo di transito PAL
Introdurre in antenna un segnale di prova colore. Regolare su bassa luminosità. Regolare alternativamente LC 17 (fase PAL) e PC 18 (ampiezza PAL) in modo tale che le zone acromatiche (+ V ± U) rispettivamente la barra di colore porpora non presentino l'effetto persiana (adoppiamento di linee).

1.3 Trappola portante cromoforica 4,43 MHz*
Collegare l'oscilloscopio all'emettitore di TV 60 sulla piastra collegamento del cinescopio. Regolare su minimo la portante cromoforica 4,43 MHz mediante LV 56.

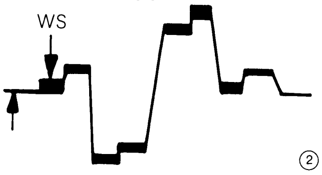
1.4 Trappola portante audio 5,5 MHz
Collegare l'oscilloscopio all'emettitore di TV 60 trovandosi sulla piastra collegamento cinescopio. Regolare su minimo la portante audio con LV 64.

2. SECAM
Alimentare un segnale barra di colore SECAM attraverso l'entrata d'antenna.

2.1 Identificazione
Per la taratura grossolana, regolare la barra di colore con LC 14 in modo tale che la riproduzione sia esente dall'effetto di scintillamento. Per la taratura fine, bisogna collegare al piedino 21 del TDA 4556 un voltmetro a resistenza ohmica estremamente elevata. Consigliamo di non misurare la tensione verso massa ma invece verso un separatore di tensione la cui entrata è di circa 6 V. Allineare su tensione massima mediante LC 14.



①



②

2.2 Demodulatore B-Y

Collegare l'oscilloscopio al piedino 3 del TDA 4556 (uscita B-Y). Regolare con LC 05 le barre acromatiche del segnale di prova barre di colore in modo tale che corrispondino al livello della lacuna d'esplorazione di riga **(fig. 1)**.

2.3 Demodulatore R-Y

Collegare l'oscilloscopio al piedino 1 del TDA 4556 (uscita R-Y). Regolare con LC 01 le barre acromatiche del segnale di prova in modo tale che corrispondino al livello della lacuna d'esplorazione di riga **(fig. 2)**.

2.4 Filtro a campana

Alimentare in modo video il segnale SECAM attraverso la presa Peritelevisione (piedino 20). Collegare l'oscilloscopio al piedino 15 del TDA 4556. Effettuare la regolazione con LC 23 in modo tale che le ampiezze del segnale barre di colore siano analogiche.

2.5 Trappola portante cromoforica 4,25 MHz*

Collegare l'oscilloscopio all'emettitore di TV 60 sulla piastra collegamento del cinescopio. Regolare su minimo la portante cromoforica 4,25 MHz mediante LV 57.

3. Contrasto (Bianco di cresta)*

Collegare un generatore di segnali di prova ed introdurre in antenna un segnale verde. Collegare l'oscilloscopio al catodo verde del cinescopio (piedino 6). Regolare il colore e la luminisità sul valore 50, il contrasto sul valore 70 mediante il telecomando. Il segnale sul cinescopio deve esser regolato a 60 Vpp tramite PV 38 (livello d'esplorazione fino al verde).

4. Corrente di fascio*

Introdurre in antenna un segnale bianco mediante il generatore di segnali di prova. Collegare l'oscilloscopio al catodo verde del cinescopio (piedino 6). Regolare il colore e la luminosità sul valore 50, il contrasto sul valore 99 mediante il telecomando. Il segnale sul cinescopio deve esser regolato su 60 Vpp mediante PV 44.

***solo con F 15-03/F 16-03**

Alignment of Chroma – Video-Module

1. PAL

Apply PAL-colour bar test pattern into the antenna input socket.

1.1 PAL-Reference-Oscillator 4.43 MHz

1.1.1 Solder a wire bridge from pin 17 to pin 9 (ground) of TDA 4556. This puts the colour killer out of action and simultaneously also the synchronization of the PAL-reference oscillator.

1.1.2 Solder a 1 kΩ resistor from pin 13 (+12 V) to pin 28 of TDA 4556, this fixes PAL operation.

1.1.3 With trimmer CC 12 adjust the colour bars almost to beat-frequency.

1.1.4 Now remove the 1 kΩ resistor and the wire bridge.

1.2 PAL-delay-line decoder

Apply Philips-test pattern with low brightness level. Adjust LC 17 (PAL-phase) and PC 18 (PAL-amplitude) vice-versa, so that hannover-blinds do not occur in the complementary colour bars yellow, cyan and magenta.

1.3 4.43 MHz Colour sub-carrier trap*

Connect an oscilloscope-probe to the emitter of TV 60, positioned on the CRT-base plate. Align 4.43 MHz colour subcarrier to minimum with LV 56.

1.4 5.5 MHz sound trap

Connect an oscilloscope probe to the emitter of transistor TV 60, positioned on the CRT-base plate. Align LV 64 to minimum sound carrier.

2. SECAM

Apply a SECAM-colour-bar signal to antenna input socket.

2.1 Identification

For coarse balancing, set colour bars to flicker-free playback with LC 14. For fine tuning employ an extreme high-impedance voltmeter and connect to pin 21 of the TDA 4556. We recommend, to measure the voltage not against the ground, but on a voltage devider with a tapping connection at a level of 6 volts. With LC 14 adjust to maximum reading.

2.2 B-Y Demodulator

Connect the oscilloscope to pin 3 of TDA 4556 (B-Y output). With LC 05 set the monochrome (colourless) bars of the colour-bars test pattern signal to the same level as the line blanking interval (see **fig. 1**).

2.3 R-Y Demodulator

Connect oscilloscope to pin 1 of TDA 4556 (R-Y output). With LC 01 set the monochrome bars of the test pattern signal to the same level as the line blanking interval (see **fig. 2**).

2.4 Bell filter

Apply a SECAM video signal into the SCART socket pin 20. Connect an oscilloscope to pin 15 of the TDA 4556. With LC 23 set the amplitudes of the different colour bars to same level.

2.5 4.25 MHz Colour sub-carrier trap*

Connect an oscilloscope-probe to the emitter of TV 60, positioned on the CRT-base plate. Align 4.25 MHz colour subcarrier to minimum with LV 57.

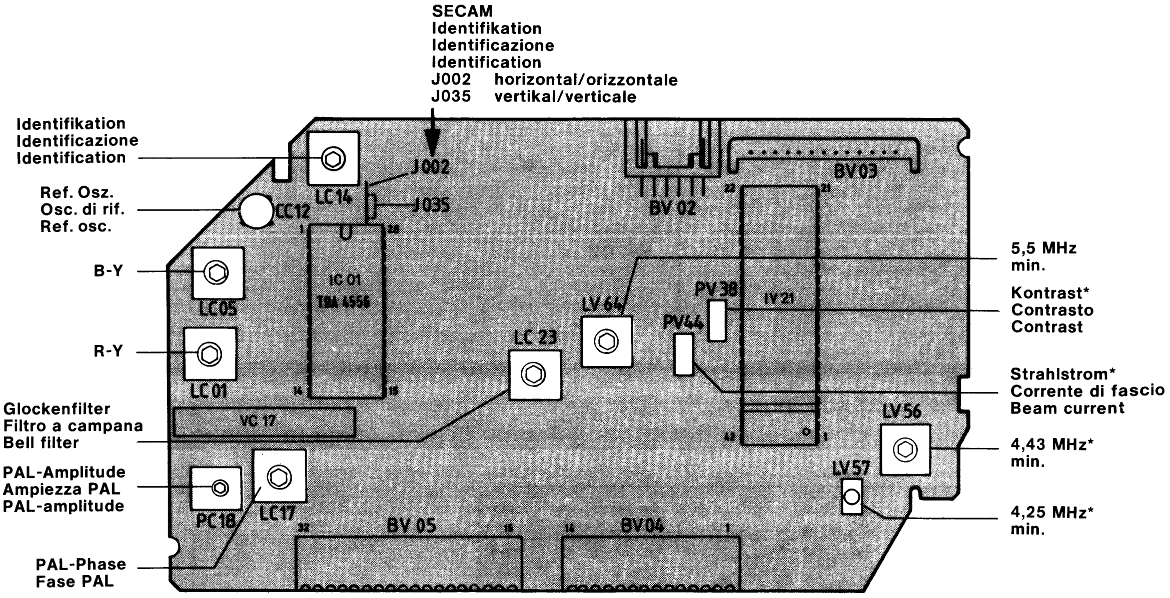
3. Contrast (peak white-level)*

Apply a green testpattern-signal to the antenna socket. Connect oscilloscope-probe to the green cathode (pin 6) of the CRT. With the remote control set the colour saturation to indicate the value 50, the brightness to 50 and the contrast to 70. With PV 38 set the CRT-signal to 60 Vpp (blanking to green level).

4. Beam current*

Apply a white testpattern-signal to the antenna socket. Connect an oscilloscope-probe to the green cathode (pin 6) of the CRT. With the remote control set the colour saturation to indicate the value 50, the brightness to 50 and the contrast to 99. With PV 44 set the CRT-signal to 60 Vpp.

***only with F 15-03/F 16-03**

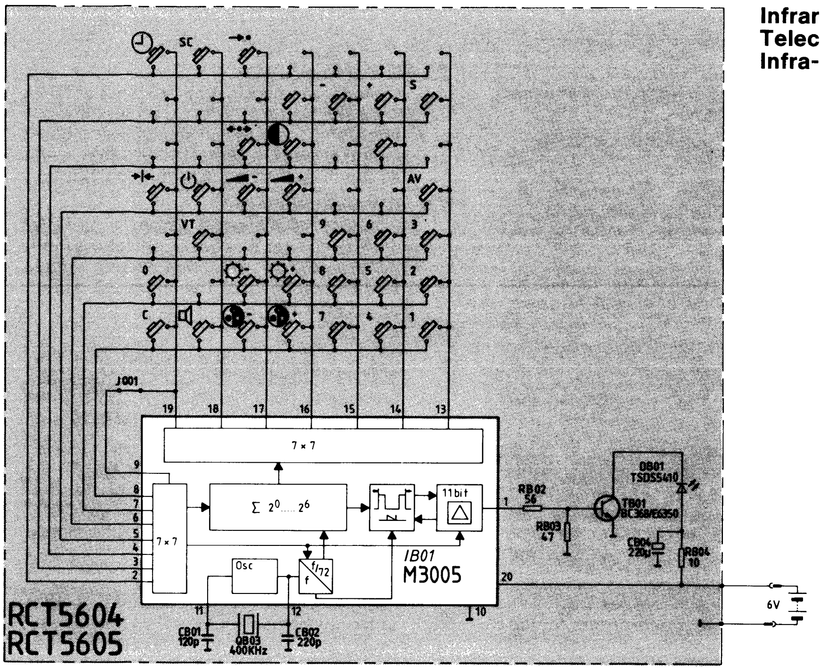


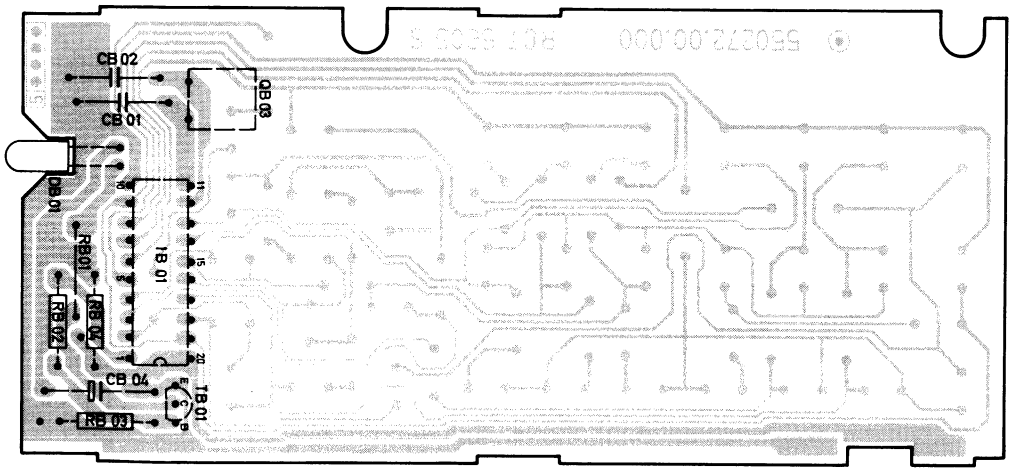
Chroma-Video-Modul
Modulo crominanza video
Chroma video module
592.730
592.780*
Bestückungsseite – Lato componenti – Component side

***nur bei**
solo con F 15-03, F 16-03
only with

Infrarot-Fernbedienung
Telecomando infrarossi
Infra-red remote control

Computer Control 4
583.561

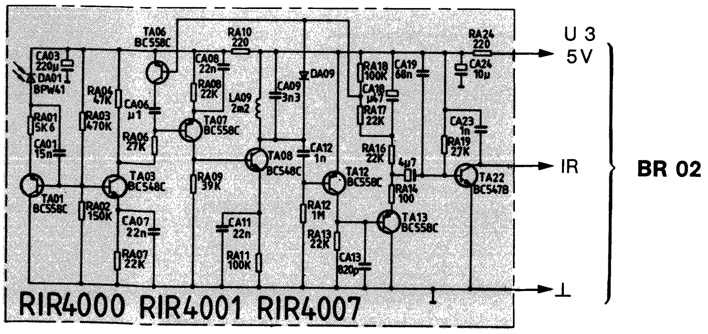

SC
VT
AV
S
0
1
2
3
4
5
6
7
8
9
C
J001
19
18
17
16
15
14
13
9
8
7
6
5
4
3
2
1
20
11
12
10
7 × 7
7 × 7
Σ 2⁰ 2⁶
11bit
Osc
f/72
f
IB01
M3005
RB02
56
RB03
47
TB01
BC368/E6350
DB01
TSDS5410
CB04
220µ
RB04
10
6V
CB01
120p
QB03
400KHz
CB02
220p
RCT5604
RCT5605

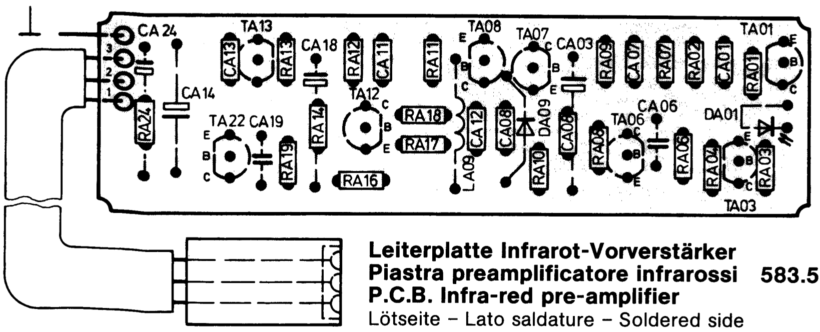

CB 02
CB 01
QB 03
DB 01
RB 01
RB 02
RB 04
IB 01
11
15
20
CB 04
RB 03
TB 01
E
C
B

Leiterplatte Infrarot-Fernbedienung
Piastra Telecomando infrarossi
P.C.B. Infra-red remote control

Computer Control 4
583.561
Lötseite – Lato saldature – Soldered side

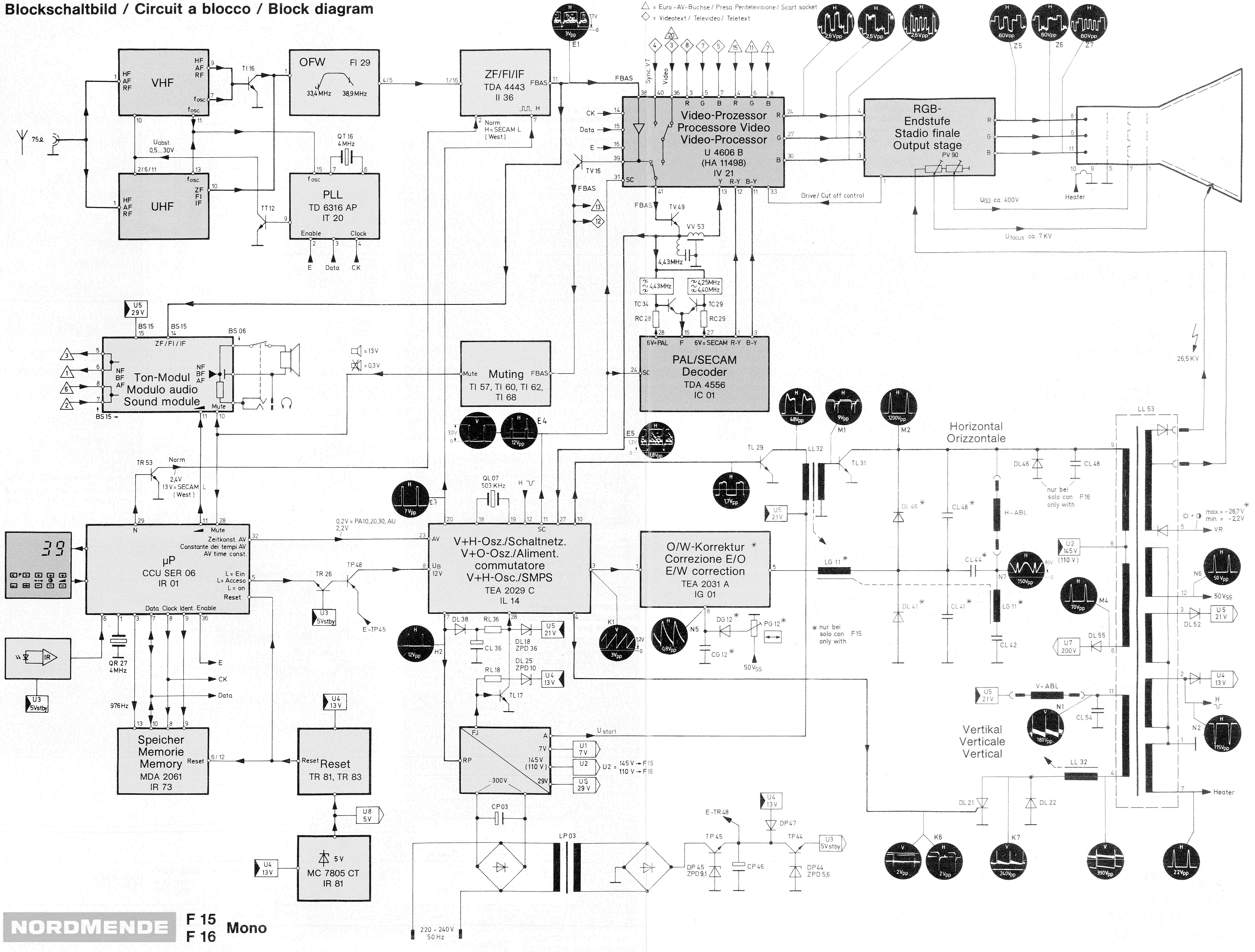
Infrarot-Vorverstärker
Preamplificatore infrarossi 583.521 B/C
Infra-red pre-amplifier


TA06
BC558C
RA10
220
RA24
220
U 3
5V
CA03
220µ
DA01
BPW41
CA08
22n
RA08
22K
DA09
CA09
3n3
LA09
2m2
RA18
100K
CA19
68n
CA24
10µ
CA18
µ47
RA17
22K
RA04
47K
RA03
470K
CA06
µ1
RA06
27K
TA07
BC558C
RA01
5K6
CA01
15n
TA08
BC548C
CA12
1n
RA16
22K
4µ7
CA23
1n
RA19
27K
IR
BR 02
TA01
BC558C
TA03
BC548C
RA09
39K
TA12
BC558C
RA14
100
TA22
BC547B
RA02
150K
CA07
22n
CA11
22n
RA12
1M
TA13
BC558C
RA13
22K
RA07
22K
RA11
100K
CA13
820p
⊥
RIR4000 RIR4001 RIR4007


⊥
CA 24
3
2
1
CA14
RA24
TA13
RA13
CA13
CA18
RA12
CA11
RA11
TA 22
CA19
E
B
C
RA19
RA14
TA12
C
B
E
RA18
RA17
RA16
CA12
LA09
CA08
TA08
E
B
C
TA07
C
B
E
CA03
DA09
RA10
CA09
RA09
CA07
RA07
RA02
CA01
RA01
TA06
CA06
C
B
E
RA08
RA06
DA01
RA04
RA03
TA01
E
B
C
TA03

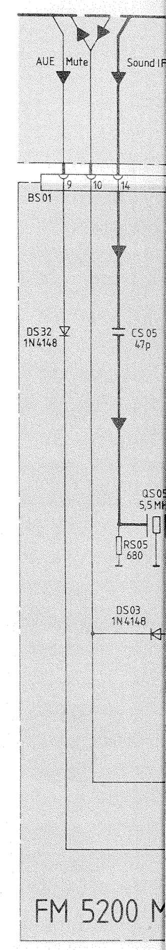
Leiterplatte Infrarot-Vorverstärker
Piastra preamplificatore infrarossi 583.521 B/C
P.C.B. Infra-red pre-amplifier
Lötseite – Lato saldature – Soldered side

Blockschaltbild / Circuit a blocco / Block diagram


△ = Euro-AV-Buchse / Presa Peritelevisione / Scart socket
◇ = Videotext / Televideo / Teletext
VHF
UHF
75Ω
Uabst. 0,5...30V
TI 16
TT 12
OFW FI 29
33,4 MHz
38,9 MHz
ZF/FI/IF TDA 4443 II 36
FBAS
Norm H = SECAM L (West)
PLL TD 6316 AP IT 20
QT 16 4 MHz
Enable
Clock
E
Data
CK
Video-Prozessor
Processore Video
Video-Processor
U 4606 B (HA 11498) IV 21
Sync VT
Video
TV 16
TV 49
VV 53
4,43 MHz
4,25 MHz
4,40 MHz
TC 34
TC 29
RC 28
RC 29
PAL/SECAM Decoder TDA 4556 IC 01
6V = PAL
6V = SECAM
R-Y
B-Y
RGB-Endstufe
Stadio finale
Output stage
PV 90
Drive / Cut off control
UG2 ca. 400V
Ufocus ca. 7 KV
Heater
Z5
Z6
Z7
E1
3Vpp
2,5Vpp
60Vpp
Ton-Modul
Modulo audio
Sound module
NF
BF
AF
Mute
BS 15
BS 06
U5 29V
ZF/FI/IF
= 13V
= 0,3V
Muting
TI 57, TI 60, TI 62, TI 68
E4
E5
12Vpp
1,8Vpp
TR 53
2,4V
13 V = SECAM L (West)
Norm
µP
CCU SER 06
IR 01
Zeitkonst. AV
Costante dei tempi AV
AV time const.
L = Ein
L = Acceso
L = on
Reset
Data Clock Ident. Enable
39
QR 27 4MHz
IR
U3 5Vstby
976Hz
Speicher
Memorie
Memory
MDA 2061
IR 73
Reset
TR 81, TR 83
U4 13V
U8 5V
MC 7805 CT
IR 81
5V
0,2V = PA10, 20, 30, AU
2,2V
QL 07 503 KHz
V+H-Osz./Schaltnetz.
V+O-Osz./Aliment. commutatore
V+H-Osz./SMPS
TEA 2029 C
IL 14
UB 12V
TR 26
TP 48
E-TP45
DL 38
RL 36
DL 18 ZPD 36
DL 25 ZPD 10
CL 36
RL 18
TL 17
U5 21V
U4 13V
H2
E3
7Vpp
K1
3Vpp
FJ
RP
Ustart
7V
145V (110V)
29V
300V
U1 7V
U2
U5 29V
U2 = 145V → F15
110V → F16
CP 03
LP 03
220 - 240 V 50 Hz
E-TR 48
TP 45
TP 44
DP 47
DP 45 ZPD 9,1
CP 46
DP 44 ZPD 5,6
U3 5Vstby
O/W-Korrektur
Correzione E/O
E/W correction
TEA 2031 A
IG 01
DG 12
PG 12
CG 12
50VSS
N5
0,8Vpp
* nur bei solo con only with F15
TL 29
LL 32
TL 31
M1
M2
48Vpp
9Vpp
1200Vpp
1,7Vpp
U5 21V
LG 11
Horizontal
Orizzontale
DL 46
CL 48
H-ABL
DL 41
CL 41
CL 44
N7
150Vpp
LG 11
CL 42
U2 145V (110V)
U7 200V
DL 55
DL 52
M4
70Vpp
N6
50Vpp
50VSS
LL 53
26,5 KV
max. = -26,7V
min. = -2,2V
VR
U5 21V
U4 13V
V-ABL
N1
180Vpp
CL 54
N2
115Vpp
Vertikal
Verticale
Vertical
LL 32
DL 21
DL 22
K6
K7
2Vpp
240Vpp
390Vpp
22Vpp
Heater

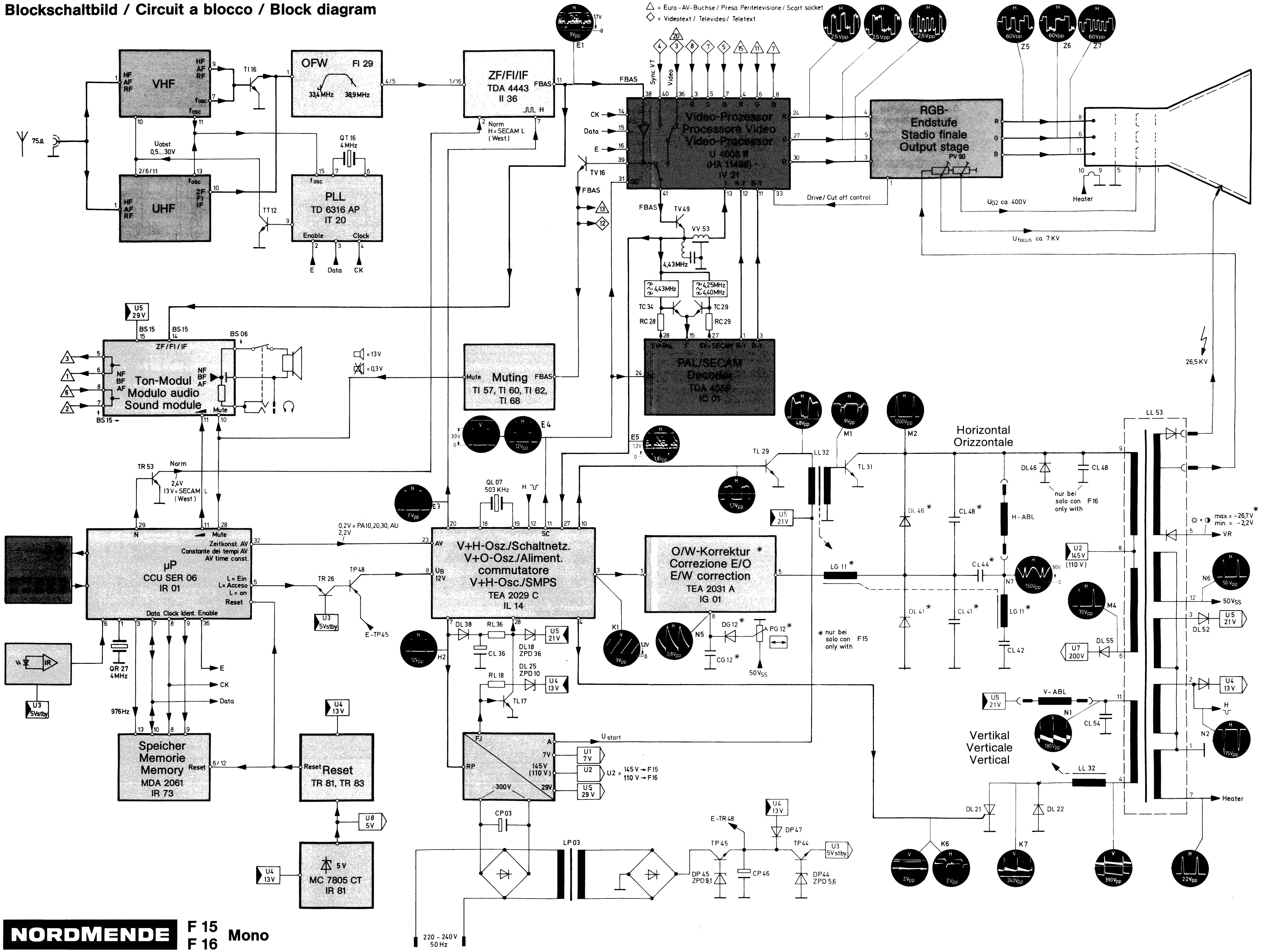
NORDMENDE F 15 F 16 **Mono**

Ton-Modu
Modulo a
Sound m



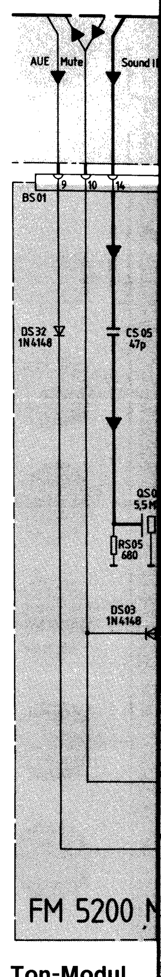
Ton-Modul
Modulo audio
Sound modul

Blockschaltbild / Circuit a blocco / Block diagram

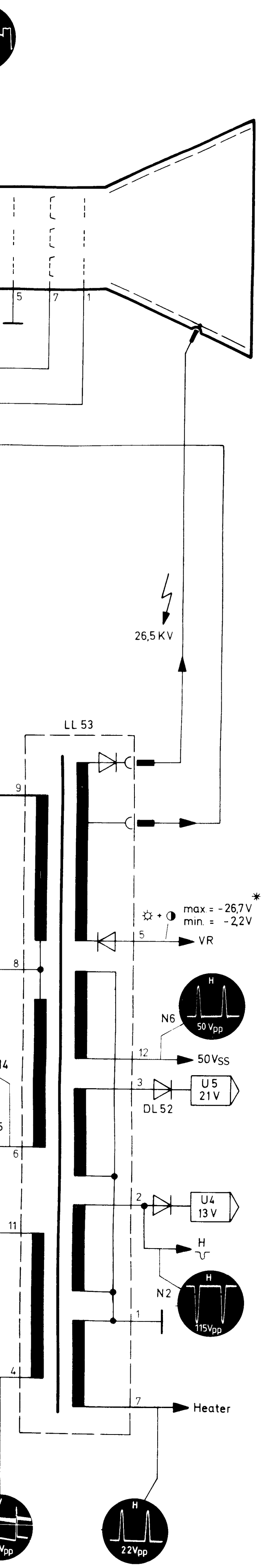

△ = Euro-AV-Buchse / Presa Peritelevisione / Scart socket
◇ = Videotext / Televideo / Teletext
VHF
HF AF RF
UHF
HF AF RF ZF FI IF
fosc
75Ω
Uabst. 0,5....30V
TI 16
TT12
OFW FI 29
33,4MHz 38,9MHz
QT 16 4MHz
PLL TD 6316 AP IT 20
Enable Clock
E Data CK
ZF/FI/IF TDA 4443 II 36
FBAS
Norm H = SECAM L (West)
E1 17V 3Vpp
Sync. VT
Video
CK Data E
TV 16
FBAS
FBAS
TV 49
VV 53
4,43MHz
4,43MHz
4,25MHz 4,40MHz
TC 34 TC 29
RC 28 RC 29
Video-Prozessor Processore Video Video-Processor U 4608 B (HA 11498) IV 21
R G B R G B
Y R-Y B-Y
PAL/SECAM Decoder TDA 4556 IC 01
R-Y B-Y
2,5Vpp 2,5Vpp 2,5Vpp
RGB-Endstufe Stadio finale Output stage
PV 90
Drive / Cut off control
60Vpp 60Vpp 60Vpp
Z5 Z6 Z7
R G B
Heater
UG2 ca. 400V
Ufocus ca. 7KV
26,5KV
U5 29V
BS 15 BS 15 BS 06
ZF / FI / IF
NF BF AF
Ton-Modul Modulo audio Sound module
Mute
BS 15
= 13V
= 0,3V
Muting TI 57, TI 60, TI 62, TI 68
Mute FBAS
E4 3,0V 0V 12Vpp
E5 1,2V 1,8Vpp
TR 53
Norm 2,4V 13 V = SECAM L (West)
µP CCU SER 06 IR 01
Mute
Zeitkonst. AV Constante dei tempi AV AV time const.
L = Ein L = Acceso L = on
Reset
Data Clock Ident. Enable
N
0,2V = PA10,20,30, AU 2,2V
TR 26 TP 48
U3 5Vstby
E-TP45
QR 27 4MHz
IR
U3 5Vstby
976Hz
E CK Data
Speicher Memorie Memory MDA 2061 IR 73
Reset
U4 13V
Reset TR 81, TR 83
U8 5V
5V MC 7805 CT IR 81
U4 13V
E3 7Vpp
QL 07 503 KHz
V+H-Osz./Schaltnetz. V+O-Osz./Aliment. commutatore V+H-Osz./SMPS TEA 2029 C IL 14
AV UB 12V SC
DL 38 RL 36 DL 18 ZPD 36
U5 21V
CL 36
DL 25 ZPD 10
RL 18
U4 13V
TL 17
H2 12Vpp
FJ RP A
Ustart
7V 145V (110 V) 29V 300V
U1 7V
U2
U2 = 145 V → F15 110 V → F16
U5 29 V
CP 03
LP 03
220 - 240 V 50 Hz
E-TR 48
TP 45 TP 44
DP 45 ZPD 9,1
CP 46
DP 44 ZPD 5,6
U4 13V
DP 47
U3 5Vstby
K1 3Vpp 12V
O/W-Korrektur Correzione E/O E/W correction TEA 2031 A IG 01
N5 0,8Vpp
DG 12
PG 12
CG 12
50VSS
TL 29
1,7Vpp
48Vpp
LL 32
U5 21V
9Vpp M1
TL 31
1200Vpp M2
Horizontal Orizzontale
DL 46
CL 48
DL 46
CL 48
nur bei solo con F16 only with
H-ABL
LG 11
CL 44
N7 150Vpp 80V
LG 11
DL 41
CL 41
CL 42
* nur bei solo con F15 only with
U2 145V (110 V)
M4 70Vpp
U7 200V
DL 55
LL 53
VR
max. = -26,7V min. = -2,2V
N6 50Vpp
50VSS
U5 21V
DL 52
U4 13V
U5 21V
V-ABL
N1 180Vpp
CL 54
Vertikal Verticale Vertical
LL 32
N2 115Vpp
DL 21 DL 22
K6 2Vpp 2Vpp
K7 240Vpp
390Vpp
22Vpp
Heater

NORDMENDE F 15 F 16 Mono

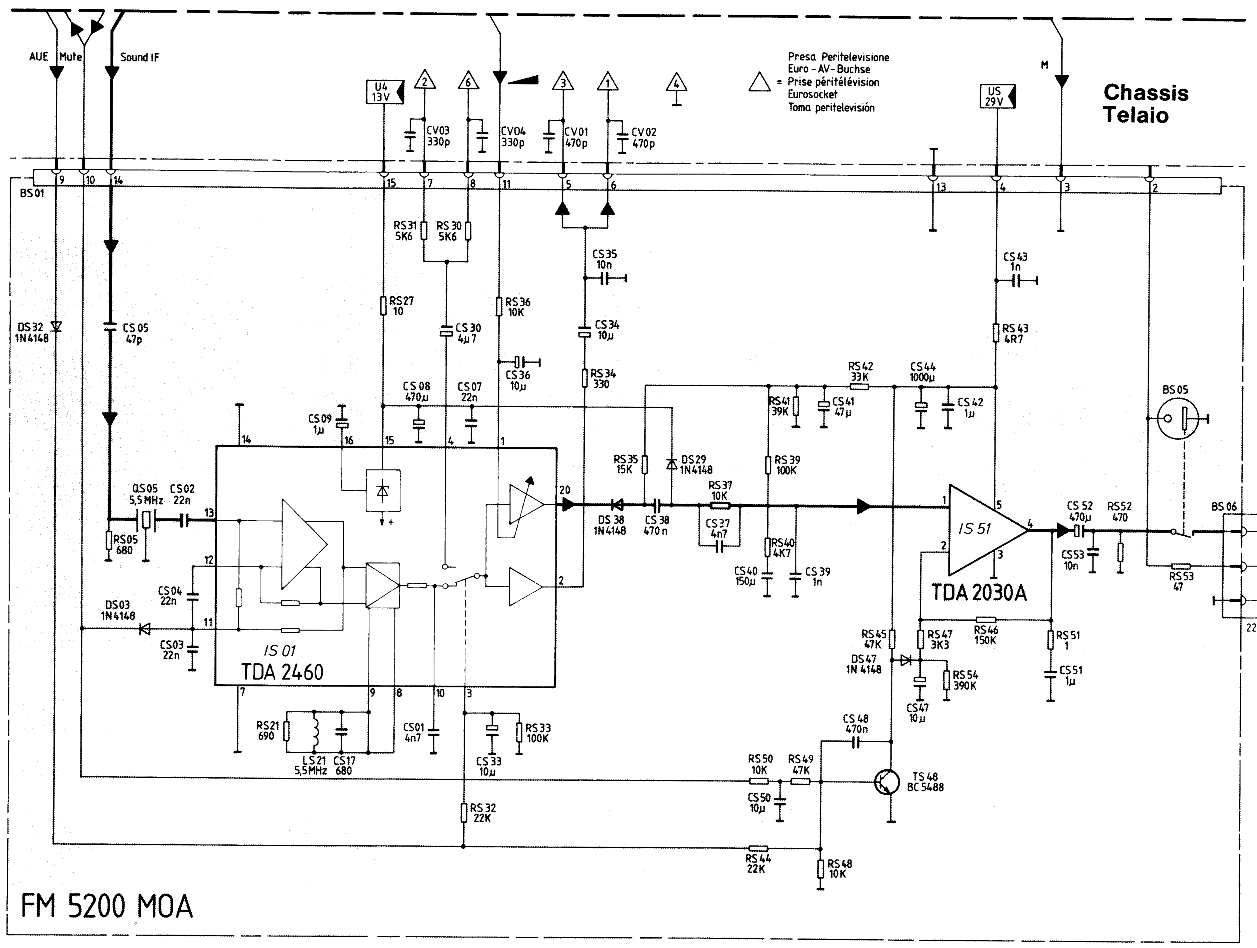
Ton-Modu
Modulo a
Sound m


AUE
Mute
Sound
BS 01
DS 32 1N4148
CS 05 47p
QS0 5,5M
RS05 680
DS03 1N4148
FM 5200 N

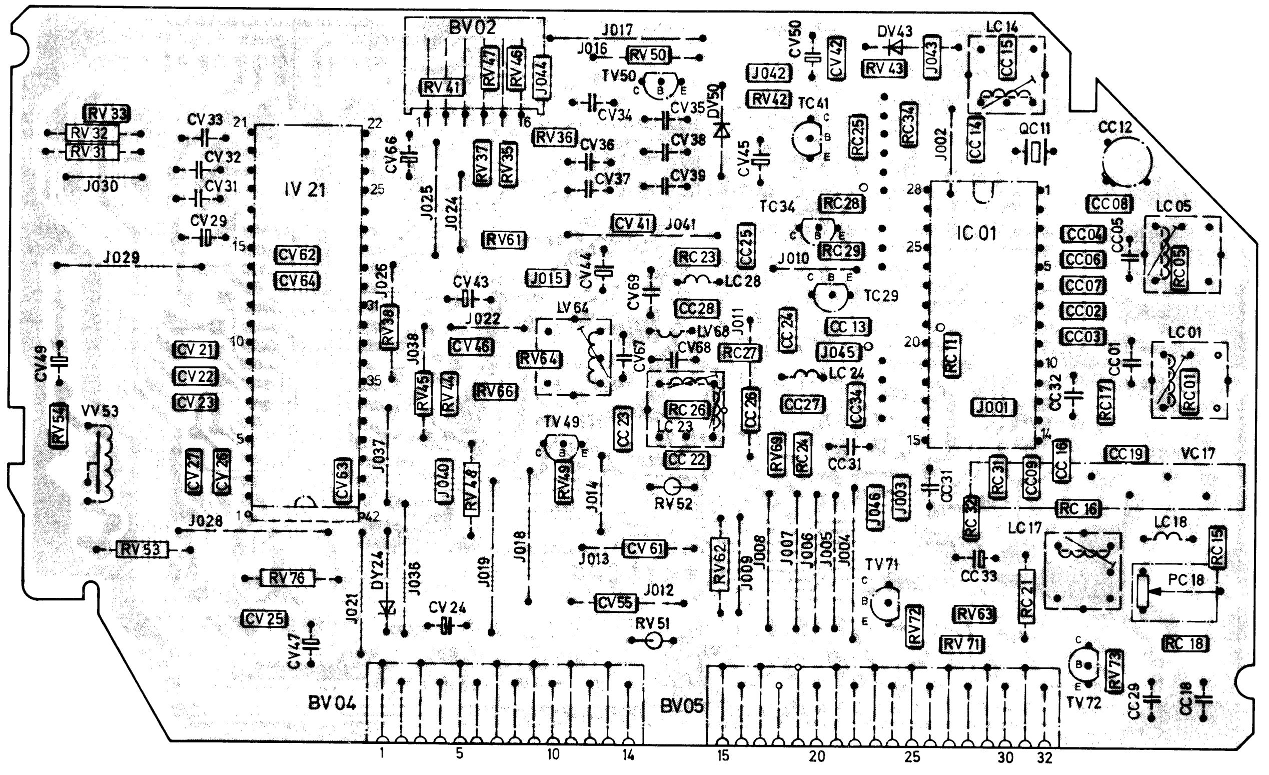
Ton-Modul
Modulo audio
Sound modul


26,5 KV
LL 53
max = -26,7 V
min. = -2,2 V
VR
N6
50 Vpp
50 V$_{SS}$
U5 21 V
DL 52
U4 13 V
H
N2
115Vpp
Heater
22Vpp

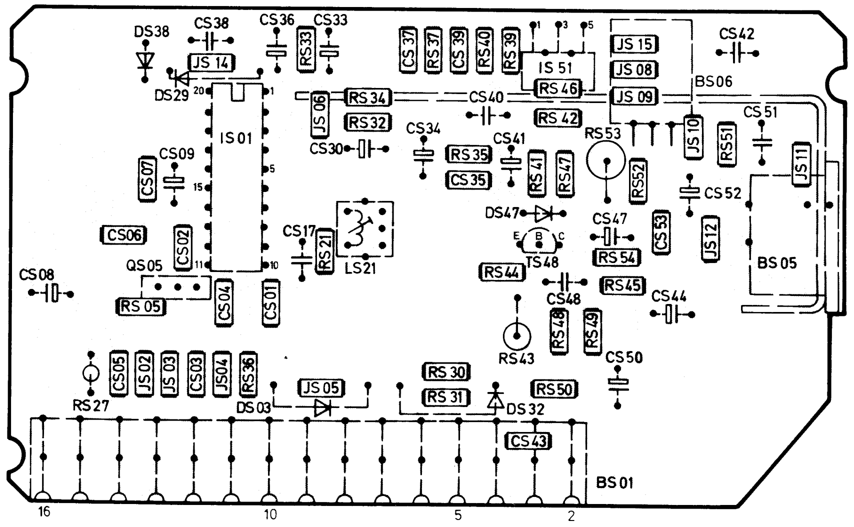
Ton-Modul, wahlweise
Modulo audio, sostitutivo FM 5200 MOA
Sound module, alternative


AUE
Mute
Sound IF
Presa Peritelevisione
Euro-AV-Buchse
Prise péritélévision
Eurosocket
Toma peritelevisión
Chassis
Telaio
BS01
IS 01
TDA 2460
IS 51
TDA 2030A
TS48 BC548B
BS05
BS06
FM 5200 MOA

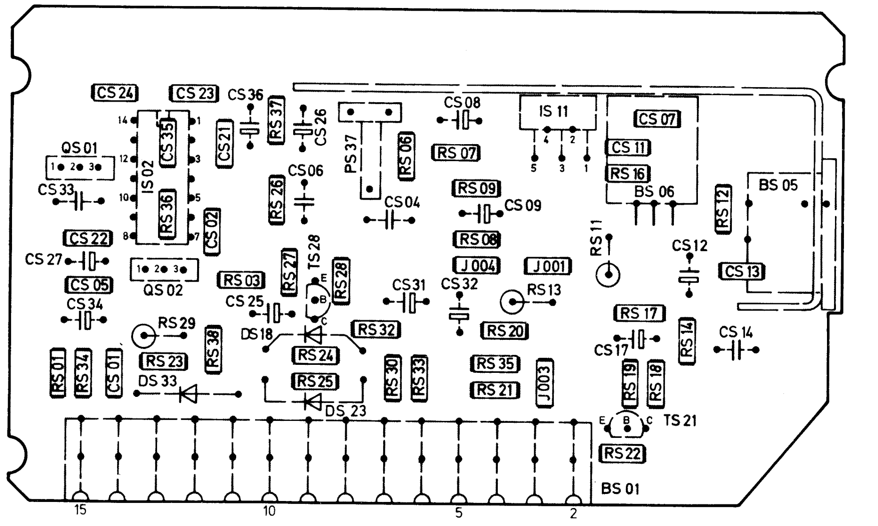
Ton-Modul
Modulo audio 596 TX 2162
Sound module


BV02
IV 21
IC 01
BV04
BV05
1
5
10
14
15
20
25
30
32

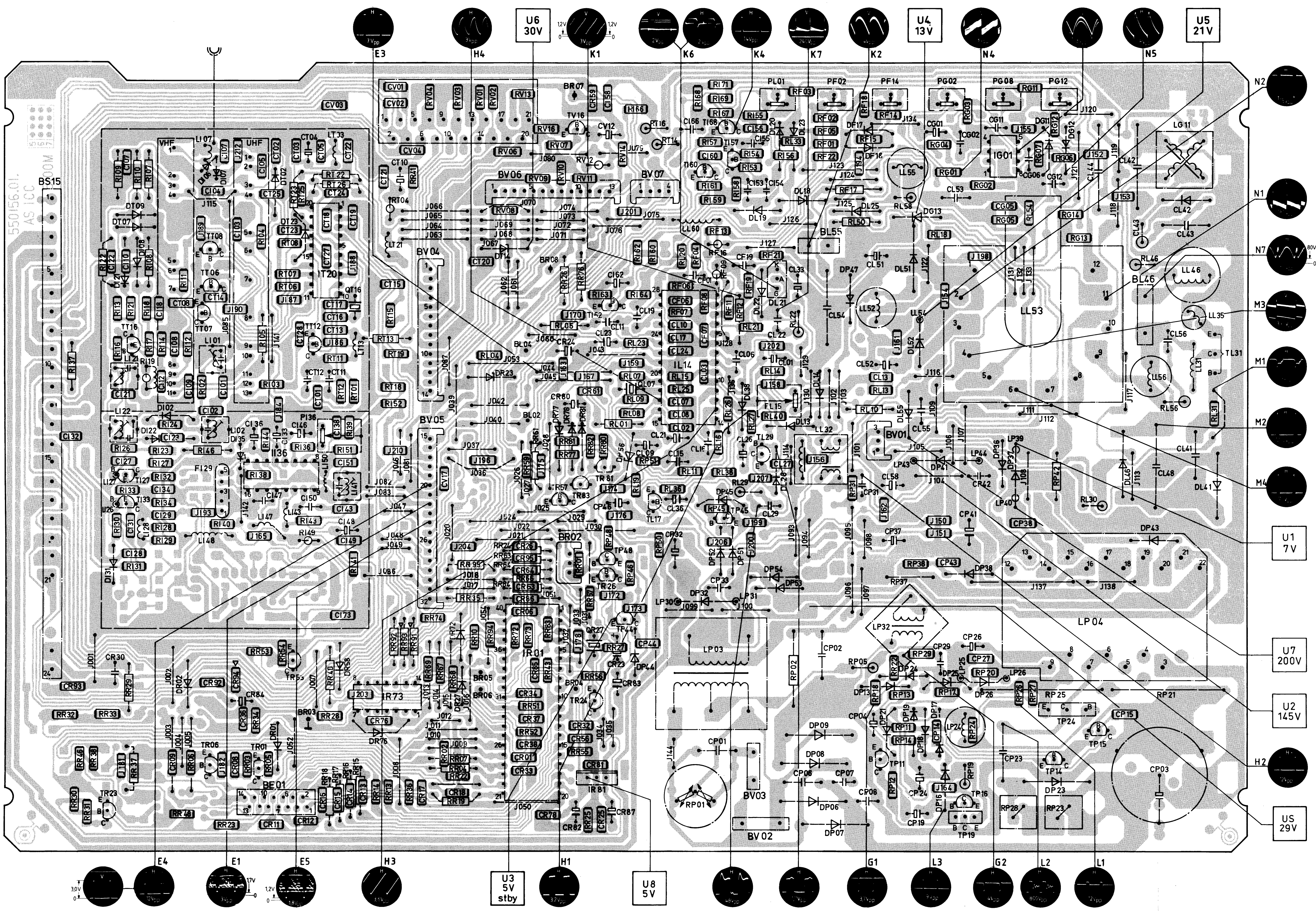
Chroma-Video-Modul
Modulo crominanza video 592.730
Chroma video module
Lötseite - Lato saldature - Soldered side


IS 01
IS 51
BS06
BS05
BS01
16
10
5
2

Ton-Modul
Modulo audio 596 TX 2162
Sound module
Lötseite - Lato saldature - Soldered side


IS 11
IS 02
BS 06
BS 05
BS 01
15
10
5
2

Ton-Modul
Modulo audio 592.980
Sound module
Lötseite - Lato saldature - Soldered side

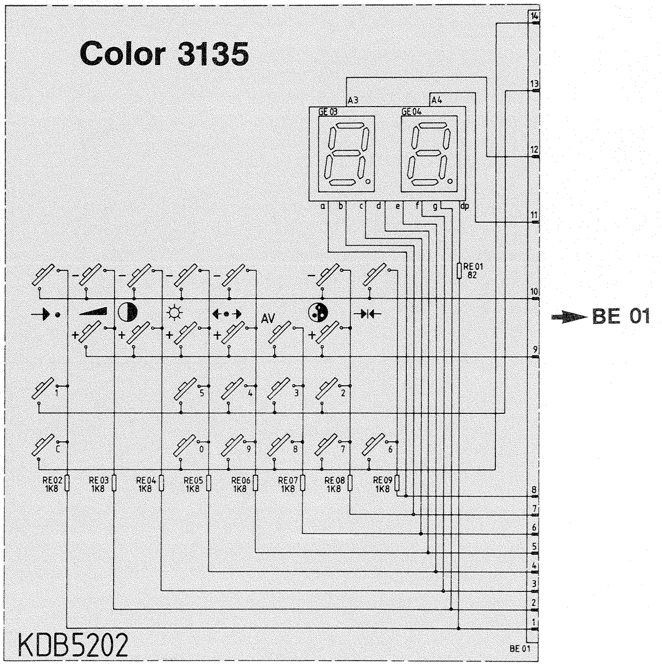

E3
H4
U6
30V
K1
K6
K4
K7
K2
U4
13V
N4
N5
U5
21V
N2
N1
N7
M3
M1
M2
M4
U1
7V
U7
200V
U2
145V
H2
US
29V
E4
E1
E5
H3
U3
5V
stby
H1
U8
5V
G1
L3
G2
L2
L1
BS15
BV04
BV05
BV06
BV07
BL55
BL46
LL53
LG11
LP03
LP04
LP32
IL14
IR01
IR73
IR81
IG01
BE01
BR02
BV01
BV02
BV03
RP01
CP03
VHF
UHF

Grundplatte
Piastra di base F 15-01
Basic P.C.B.
Lötseite – Lato saldature – Soldered side

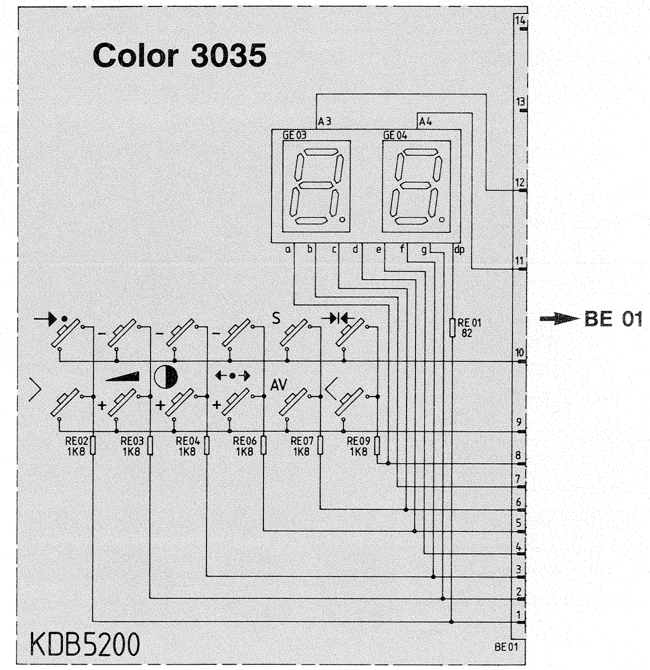
▽ = nur bei
solo con
only with

Color 3035
Color 3135

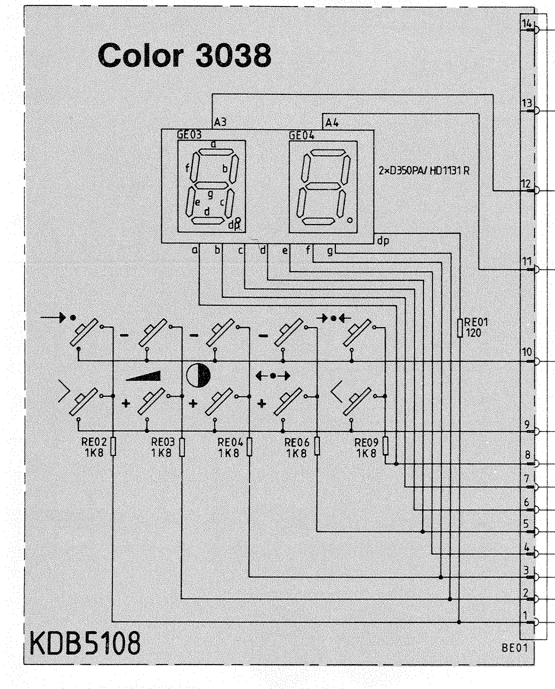
Bedienteilplatte
Piastra sezione comandi 592.987
Control unit board

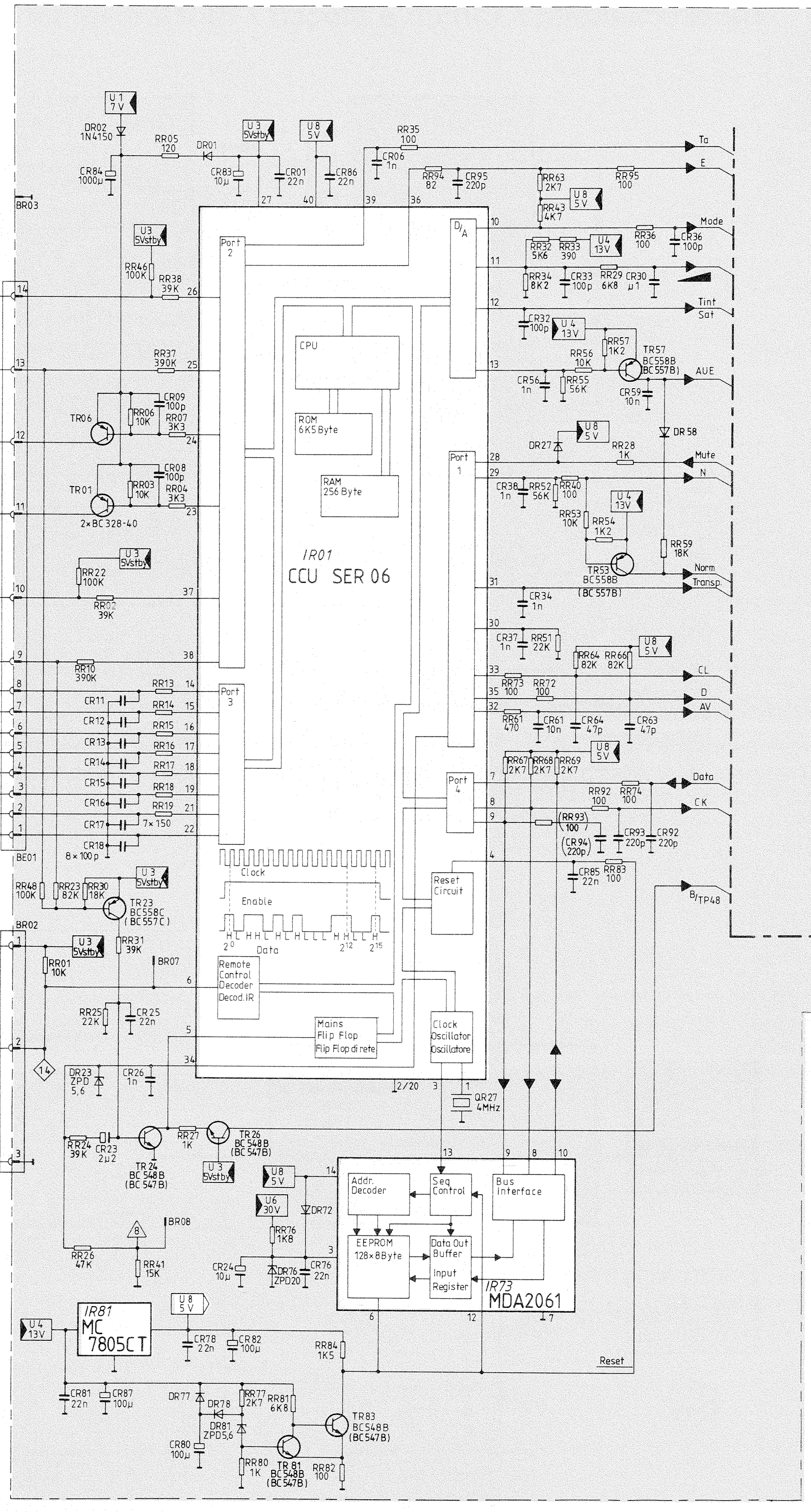

Color 3135
GE03
GE04
A3
A4
AV
BE 01
KDB5202

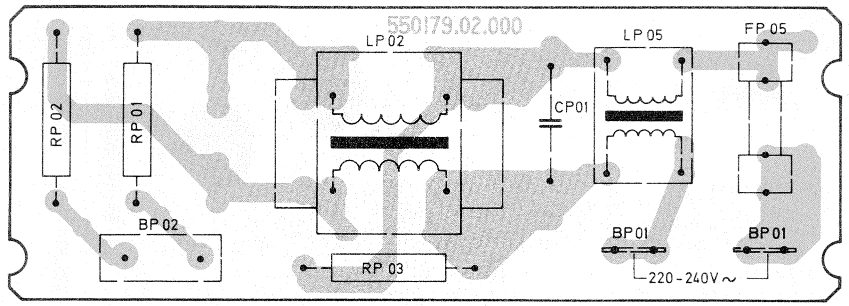
Bedienteilplatte
Piastra sezione comandi 592.756
Control unit board


Color 3035
GE03
GE04
A3
A4
AV
BE 01
KDB5200

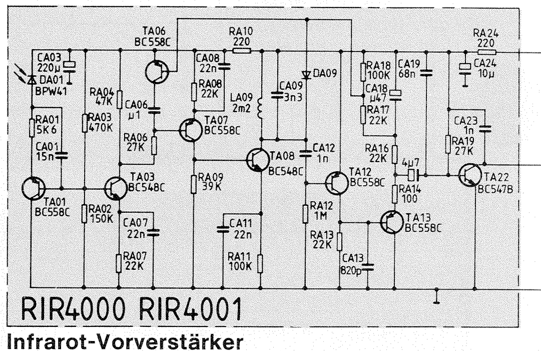
Bedienteilplatte
Piastra sezione comandi 592.755
Control unit board


Color 3038
GE03
GE04
2×D350PA/HD1131R
KDB5108

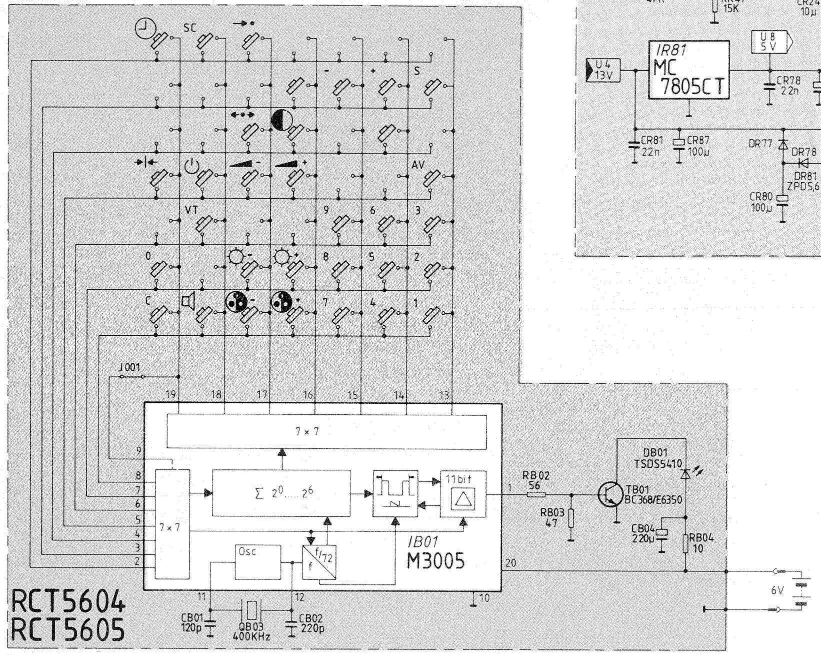

IR01
CCU SER 06
CPU
ROM 6K5Byte
RAM 256Byte
Port 1
Port 2
Port 3
Port 4
D/A
Clock
Enable
Data
Remote Control Decoder Decod IR
Mains Flip Flop
Reset Circuit
Clock Oscillator
QR27 4MHz
Addr. Decoder
Seq Control
Bus Interface
EEPROM 128×8Byte
Data Out Buffer
Input Register
IR73
MDA2061
IR81
MC 7805CT
Reset
Ta
E
Mode
Tint
Sat
AUE
Mute
N
Norm
Transp
CL
D
AV
Data
CK
BTP48


550179.02.000
LP 02
LP 05
FP 05
CP01
RP 02
RP 01
BP 02
RP 03
BP 01
BP 01
220-240V ~

Leiterplatte Netzfilter
Piastra bobina d'arresto 527.436
P.C.B. Mains filter
Lötseite – Lato saldature – Soldered side


BPW41
DA01
RIR4000 RIR4001

Infrarot-Vorverstärker
Preamplificatore infrarossi 583.521 B/C
Infra-red pre-amplifier


SC
AV
VT
J001
7×7
IB01
M3005
Osc
11bit
DB01 TSDS5410
TB01 BC368/E6350
QB03 400KHz
6V
RCT5604
RCT5605

Infrarot-Fernbedienung
Telecomando infrarossi
Infra-red remote control

Computer Control 4
583.561

( ) = nur bei
solo con
only with
Color 3035
Color 3135

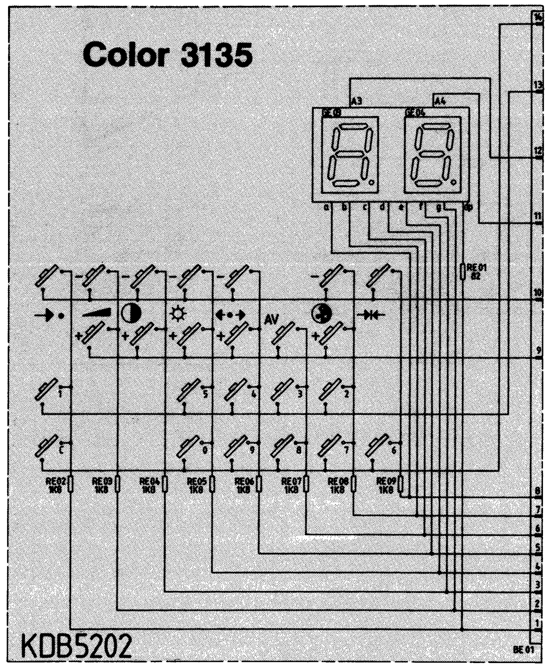
□ = nur bei
solo con
only with
Color 3038

Chassis F15 M-01 ICC 5115 ML

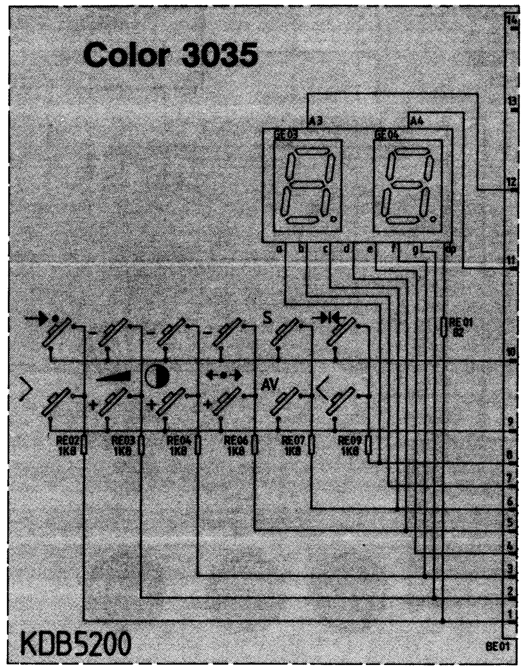
Chassis F15-01 785.522.B 01 115-01

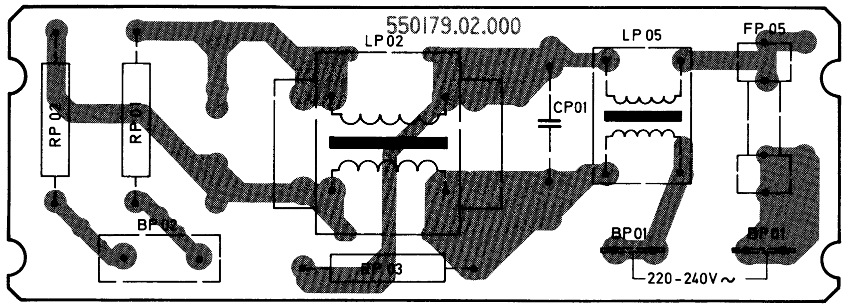
NORDMENDE „Chassis 01" 110°

Bedienteilplatte
Piastra sezione comandi 592.987
Control unit board


Color 3135
BE 01
AV
KDB5202

Bedienteilplatte
Piastra sezione comandi 592.756
Control unit board


Color 3035
BE 01
AV
KDB5200


550179.02.000
LP 02
LP 05
FP 05
CP01
RP 02
RP 01
BP 02
RP 03
BP 01
220-240V ~

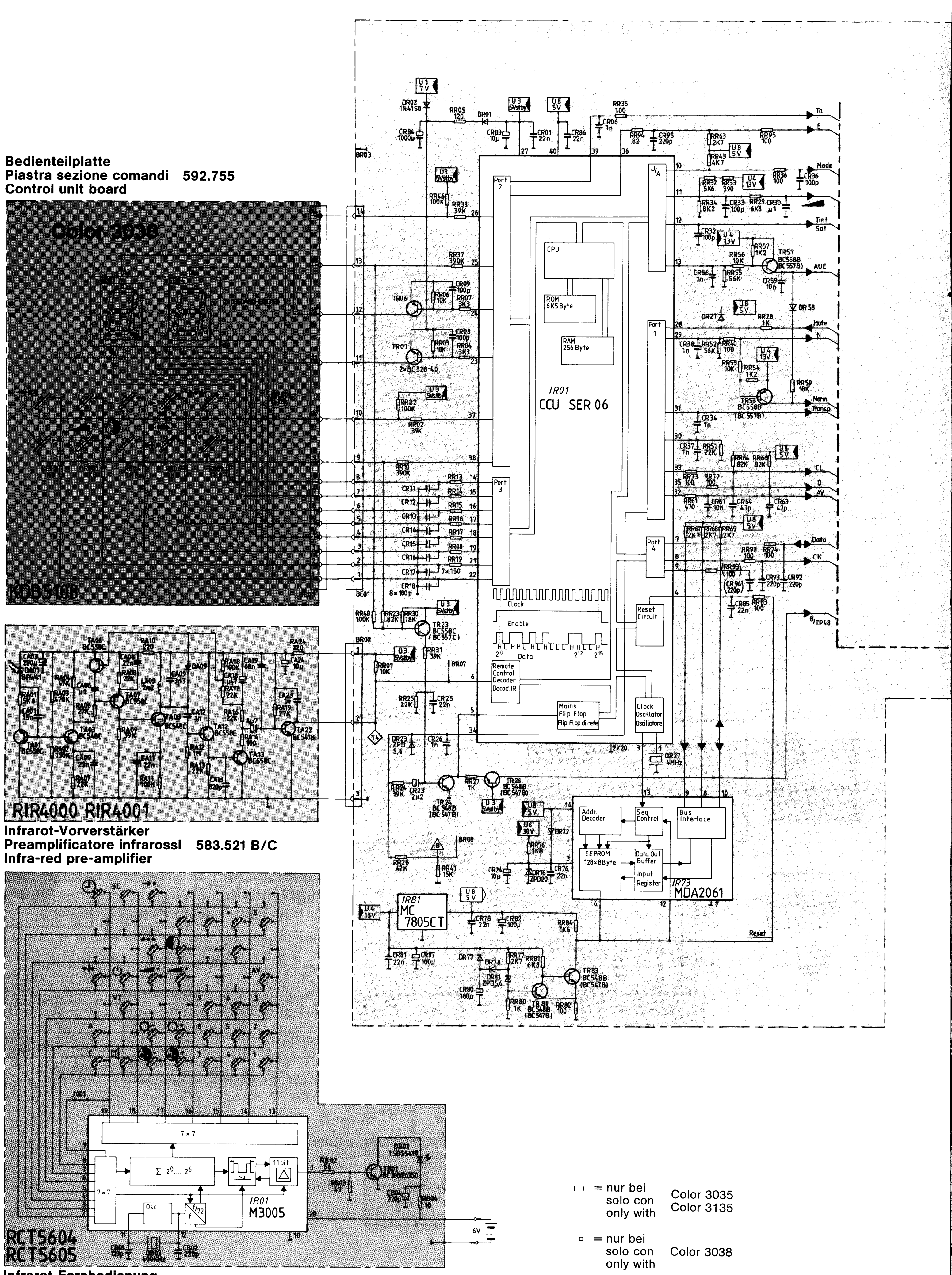
Leiterplatte Netzfilter
Piastra bobina d'arresto 527.436
P.C.B. Mains filter
Lötseite – Lato saldature – Soldered side

Chassis F15 M-01 ICC 5115 ML

Chassis F15-01 785.522.B 01 115-01

NORDMENDE „Chassis 01" 110°

Bedienteilplatte
Piastra sezione comandi 592.755
Control unit board


Color 3038
KDB5108
IR01
CCU SER 06
CPU
ROM 6K5 Byte
RAM 256 Byte
Port 1
Port 2
Port 3
Port 4
Reset Circuit
Clock Oscillator
Remote Control Decoder
Mains Flip Flop
Clock
Enable
Data
IR73
MDA2061
Addr. Decoder
Seq Control
Bus Interface
EEPROM 128×8 Byte
Data Out Buffer
Input Register
IR81
MC 7805CT
Ta
E
Mode
Tint
Sat
AUE
Mute
N
Norm
Transp.
CL
D
AV
Data
CK
TP48
Reset
RIR4000 RIR4001
RCT5604
RCT5605
IB01
M3005
7×7
Osc
11 bit
DB01 TSDS5410
6V

Infrarot-Vorverstärker
Preamplificatore infrarossi 583.521 B/C
Infra-red pre-amplifier

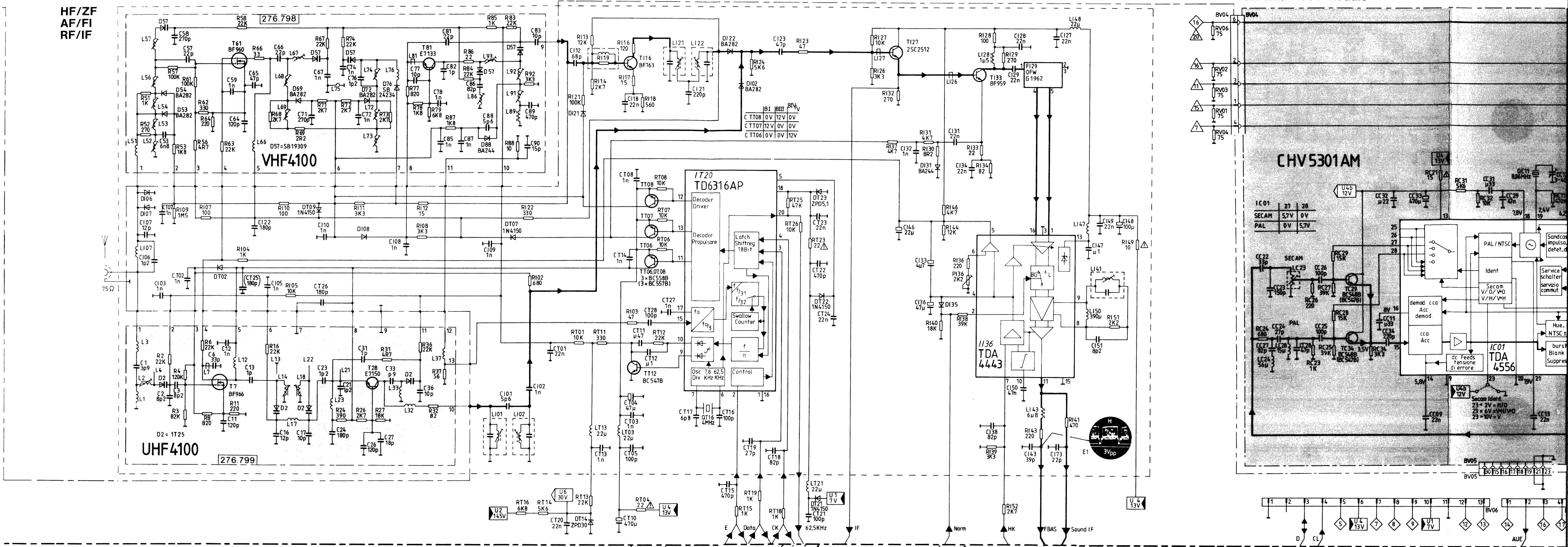
Infrarot-Fernbedienung
Telecomando infrarossi
Infra-red remote control

Computer Control 4
583.561

( ) = nur bei solo con only with — Color 3035 Color 3135

▫ = nur bei solo con only with — Color 3038

Chroma-Video-Modul
Modulo crominanza video 592.730
Chroma video module


HF/ZF
AF/FI
RF/IF
VHF4100
276.798
UHF4100
276.799
D57=SB19309
D2=1T25
IT20
TD6316AP
Decoder Driver
Decoder Propulsore
Latch Shifting 18Bit
Swallow Counter
Control
Osc 7,8 62,5 Div KHz KHz
TT06,07,08 3×BC558B (3×BC557B)
TT12 BC547B
I136
TDA 4443
T127 2SC2512
T133 BF959
FI29 OFW G1962
CHV5301AM
IC01
TDA 4556
SECAM
PAL
PAL/NTSC
Ident
Secam V/0/V+0 V/H/V+H
demod. cca Acc demod.
cca Acc
dc Feeds tensione di errore
Sandcastle impulso detet.
Service schalter servizio commut.
Norm
HK
FBAS
Sound IF
IF
Data
CK
E
AUE
D
CL
75Ω

△	= Euro-AV-Buchse Presa Peritelevisione Eurosocket		
1	NF/AF 'R' ○→ BF 'D' 0,5 V RMS	12	X
2	NF/AF 'R' ○← BF 'D' 0,5 V RMS	13	⏊ Video R
3	NF/AF 'L' ○→ BF 'S' 0,5 V RMS	14	X
4	⏊ NF/AF BF	15	Video R ○← 0,7 V RMS
5	⏊ Video B	16	Blanking ○← Spegnim. Video
6	NF/AF 'L' ○← BF 'S' 0,5 V RMS	17	⏊ Video
7	Video B ○← 0,7 V RMS	18	⏊ Blanking Spegnimento
8	Mode AV ≙ 12 V	19	Video ○→ 1 V_{pp}/75 Ω
9	⏊ Video G/V	20	Video ○← 1 V_{pp}/75 Ω
10	X	21	⏊ Chassis Telaio
11	Video G/V ○← 0,7 V RMS		V RMS = V_{eff} V_{pp} = V_{ss}

Achtung!

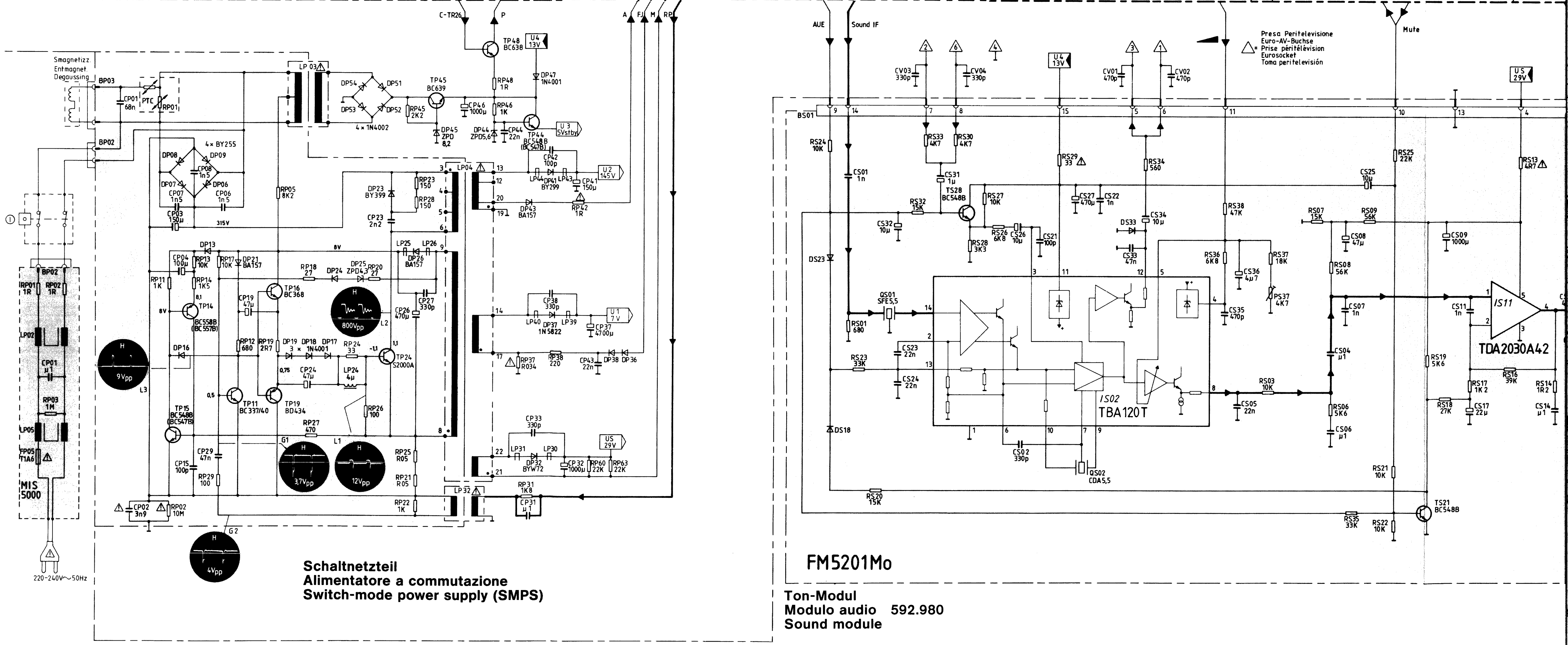
Bei Arbeiten am Schaltnetzteil Trenntrafo verwenden, und Messungen in diesem Bereich gegen Masse des Schaltnetzteils (Emitter TP 15) ausführen.

Attenzione!

Per i lavori sull'alimentatore a commutazione, bisogna utilizzare un trasformatore separatore ed effettuare le misurazioni in questo ambito verso massa dell'alimentatore a commutazione (emettitore TP 15).

Attention!

When carrying out repair work on components in the primary circuit of the switch mode power supply (SMPS), an isolating transformer must be employed. Measurements to be taken against ground within the primary side of the SMPS (emitter of TP 15).

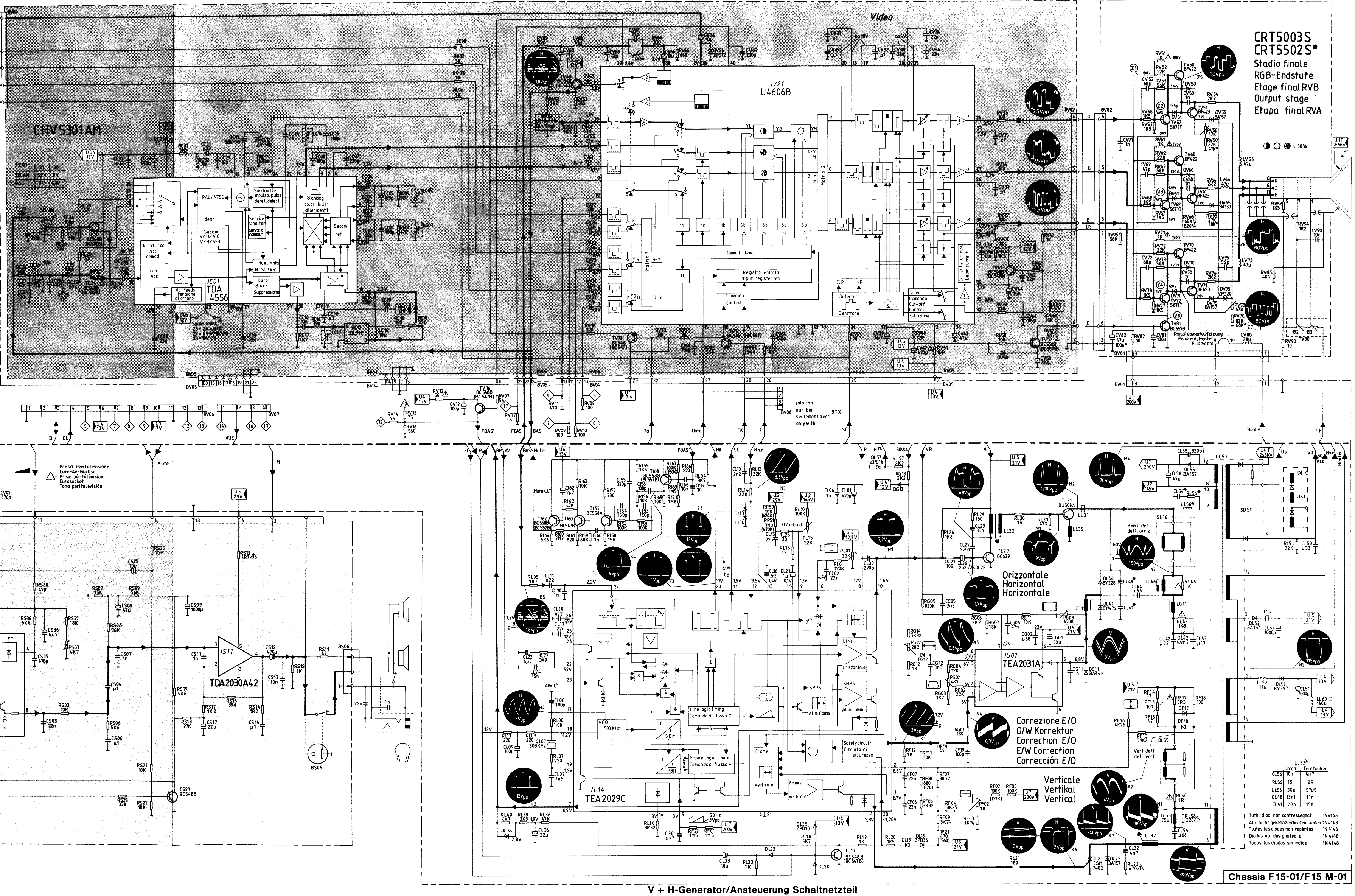

Smagnetizz. Entmagnet. Degaussing
PTC
4×BY255
4×1N4002
MIS 5000
220-240V~50Hz
TP14 BC558B (BC557B)
TP16 BC368
TP15 BC548B (BC547B)
TP11 BC337/40
TP19 BD434
TP24 S2000A
TP45 BC639
TP48 BC638
TP44 BC548B (BC547B)
9Vpp
800Vpp
3,7Vpp
12Vpp
4Vpp
3Vpp
Presa Peritelevisione
Euro-AV-Buchse
Prise péritélévision
Eurosocket
Toma peritelevisión
Mute
IS02
TBA120T
IS11
TDA2030A42
TS28 BC548B
TS21 BC548B
QS01 SFE5,5
QS02 CDA5,5
FM5201Mo

Schaltnetzteil
Alimentatore a commutazione
Switch-mode power supply (SMPS)

Ton-Modul
Modulo audio 592.980
Sound module

Chroma-Video-Modul
Modulo crominanza video 592.730
Chroma video module

Bildrohranschluß-Platine
Piastra zoccolo cinescopio 592.977
P.C.B. CRT socket

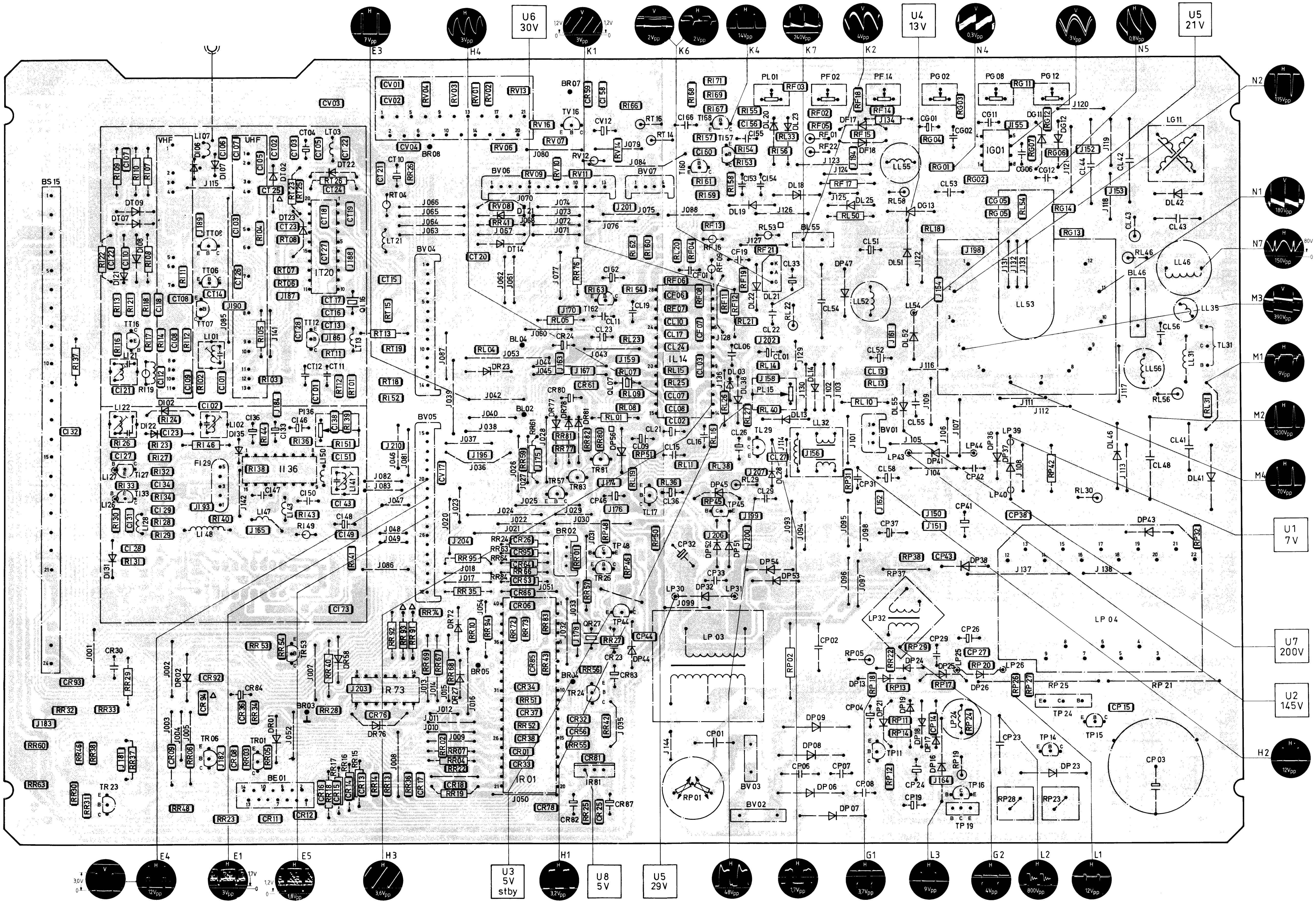


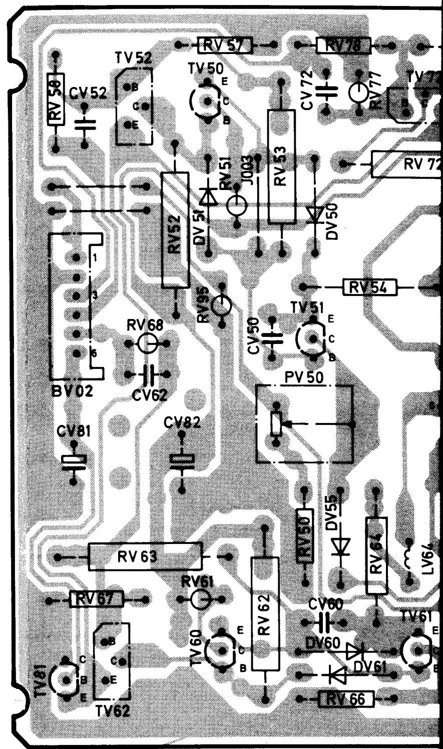
CHV5301AM
IC01 TDA 4556
Video
IV21 U4606B
Demultiplexer
Registro entrata Input register 9b
CRT5003S
CRT5502S*
Stadio finale
RGB-Endstufe
Etage final RVB
Output stage
Etapa final RVA
Presa Peritelevisione
Euro-AV-Buchse
Prise péritélévision
Eurosocket
Toma peritelevisión
IS11 TDA2030A42
IL14 TEA2029C
IG01 TEA2031A
Orizzontale
Horizontal
Horizontale
Correzione E/O
O/W Korrektur
Correction E/O
E/W Correction
Corrección E/O
Verticale
Vertikal
Vertical
Line logic timing Comando di flusso O
Frame logic timing Comando di flusso V
Safety circuit Circuito di sicurezza
VCO 500 KHz
Mute
SMPS
Tutti i diodi non contressegnati 1N4148
Alle nicht gekennzeichneten Dioden 1N4148
Toutes les diodes non repérées 1N4148
Diodes not designated all 1N4148
Todos los diodos sin indice 1N4148
Riscaldamento, Heizung Filament, Heater Filamento
solo con nur bei seulement avec only with BTX

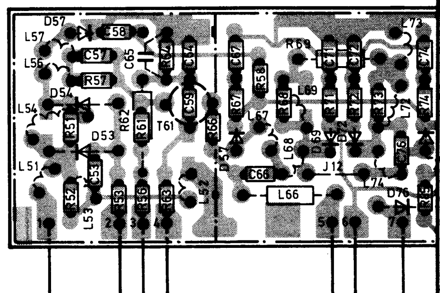
LL53*	Orega	Telefunken
CL56	10n	4n7
RL56	15	0R
LL56	30µ	57µ5
CL48	13n1	11n
CL41	20n	15n

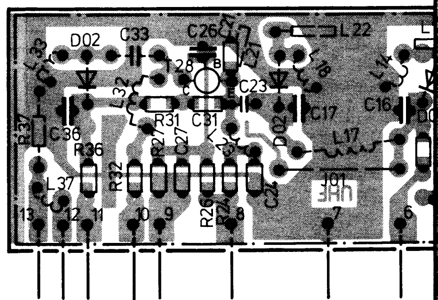
Chassis F15-01/F15 M-01

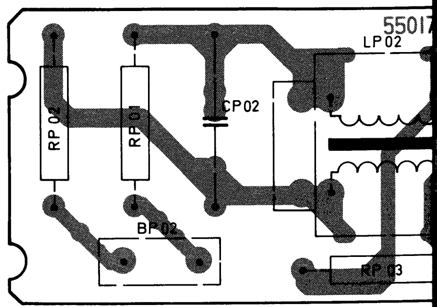
V + H-Generator/Ansteuerung Schaltnetzteil
Generatore V + O/azionamento aliment. commutat.
V + H generator/control of SMPS


E3
7Vpp
H4
3Vpp
U6
30V
K1
1,2V
3Vpp
K6
2Vpp
2Vpp
K4
14Vpp
K7
240Vpp
K2
4Vpp
U4
13V
N4
0,3Vpp
3Vpp
N5
0,8Vpp
U5
21V
N2
115Vpp
N1
180Vpp
N7
150Vpp
80V
M3
390Vpp
M1
9Vpp
M2
1200Vpp
M4
70Vpp
U1
7V
U7
200V
U2
145V
H2
12Vpp
E4
3,0V
12Vpp
E1
3Vpp
17V
E5
1,2V
1,8Vpp
H3
3,6Vpp
U3
5V
stby
H1
3,2Vpp
U8
5V
U5
29V
48Vpp
1,7Vpp
G1
3,7Vpp
L3
9Vpp
G2
4Vpp
L2
800Vpp
L1
12Vpp
BS 15
IL 14
IT 20
II 36
IG01
IR 01
IR 81
R 73
LP 03
LP 04
LP 32
CP 03
LL 53
LL 55
LL 46
BV 04
BV05
BV06
BV07
BV01
BV02
BV03
BE 01
VHF
UHF


TV52
TV50
CV52
RV 57
RV 72
RV 7
BV02
CV62
CV81
CV82
PV 50
TV51
RV 63
RV61
RV 62
CV60
DV60
TV60
TV61
TV62
TV01
RV 66
RV 67
DV55
RV 64


D57
T61
L51
L66


D02
C33
C26
L 22
C23
C17
C16
L17
R31
R36
R37
C36
L37


55017
LP02
CP 02
RP 02
RP 01
BP02
RP 03

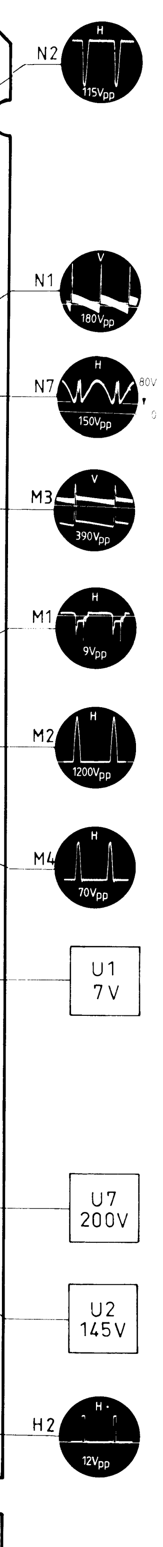
Grundplatte
Piastra di base F 15-02
Basic P.C.B.
Lötseite – Lato saldature – Soldered side

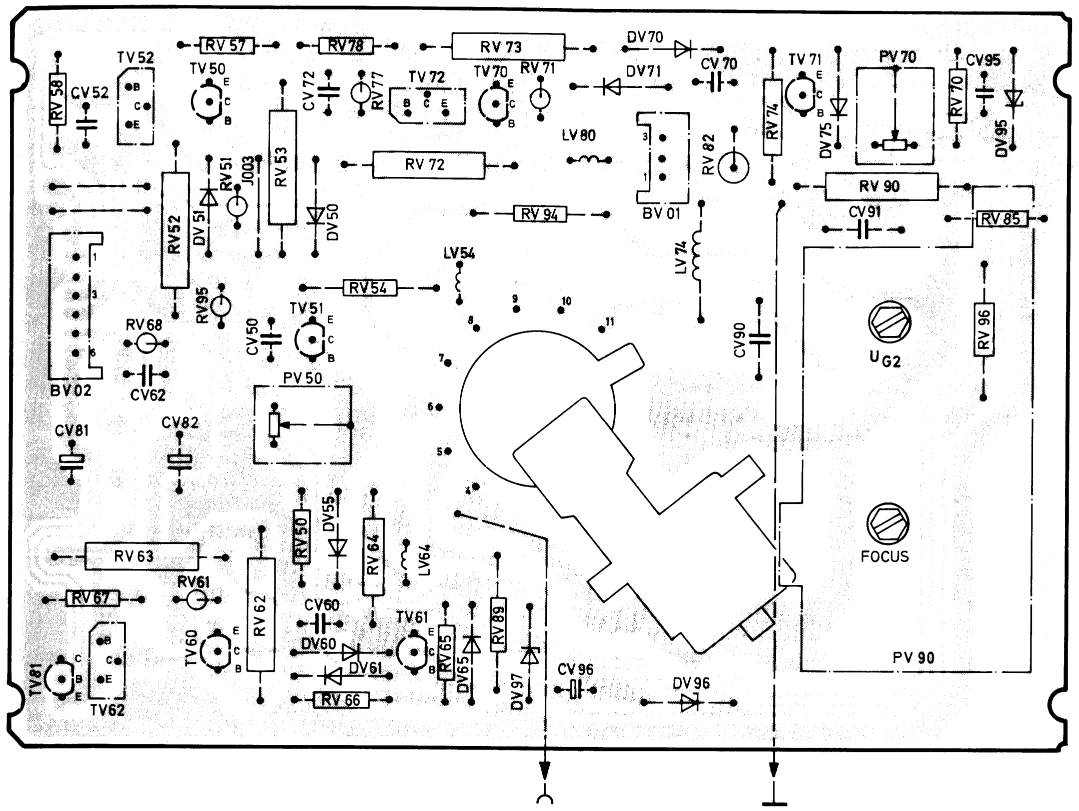
△ = nur bei / solo con / only with: Color 3035, Spectra 3205

□ = nur bei / solo con / only with: Color 3038

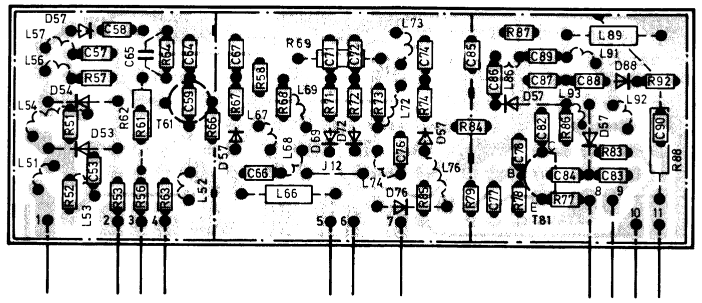
Color 3035
Spectra 3205 } Chassis F1
Color 3038 – Chassis F1

NORDMENDE

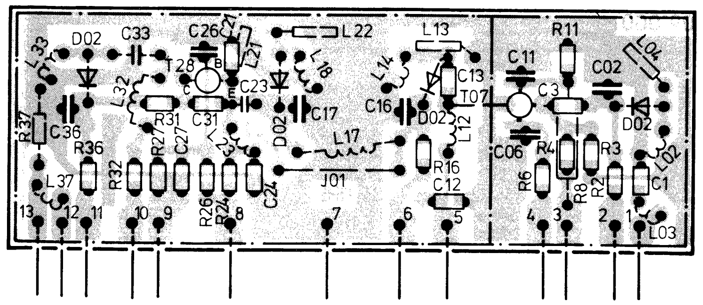

N2
115Vpp
N1
180Vpp
N7
150Vpp
M3
390Vpp
M1
9Vpp
M2
1200Vpp
M4
70Vpp
U1
7 V
U7
200V
U2
145V
H2
12Vpp


U_G2
FOCUS
PV 90
PV 70
PV 50
BV 01
BV 02
TV 50
TV 51
TV 52
TV 60
TV 61
TV 62
TV 70
TV 71
TV 72
TV 81

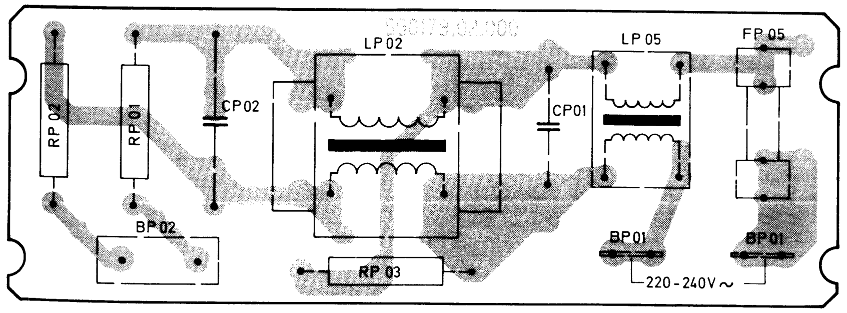
Bildrohranschluß-Platine
Piastra zoccolo cinescopio
P.C.B. CRT socket
592.977
Lötseite
Lato saldature
Soldered side



Leiterplatte VHF
Piastra VHF 276.798
P.C.B. VHF
Lötseite – Lato saldature – Soldered side



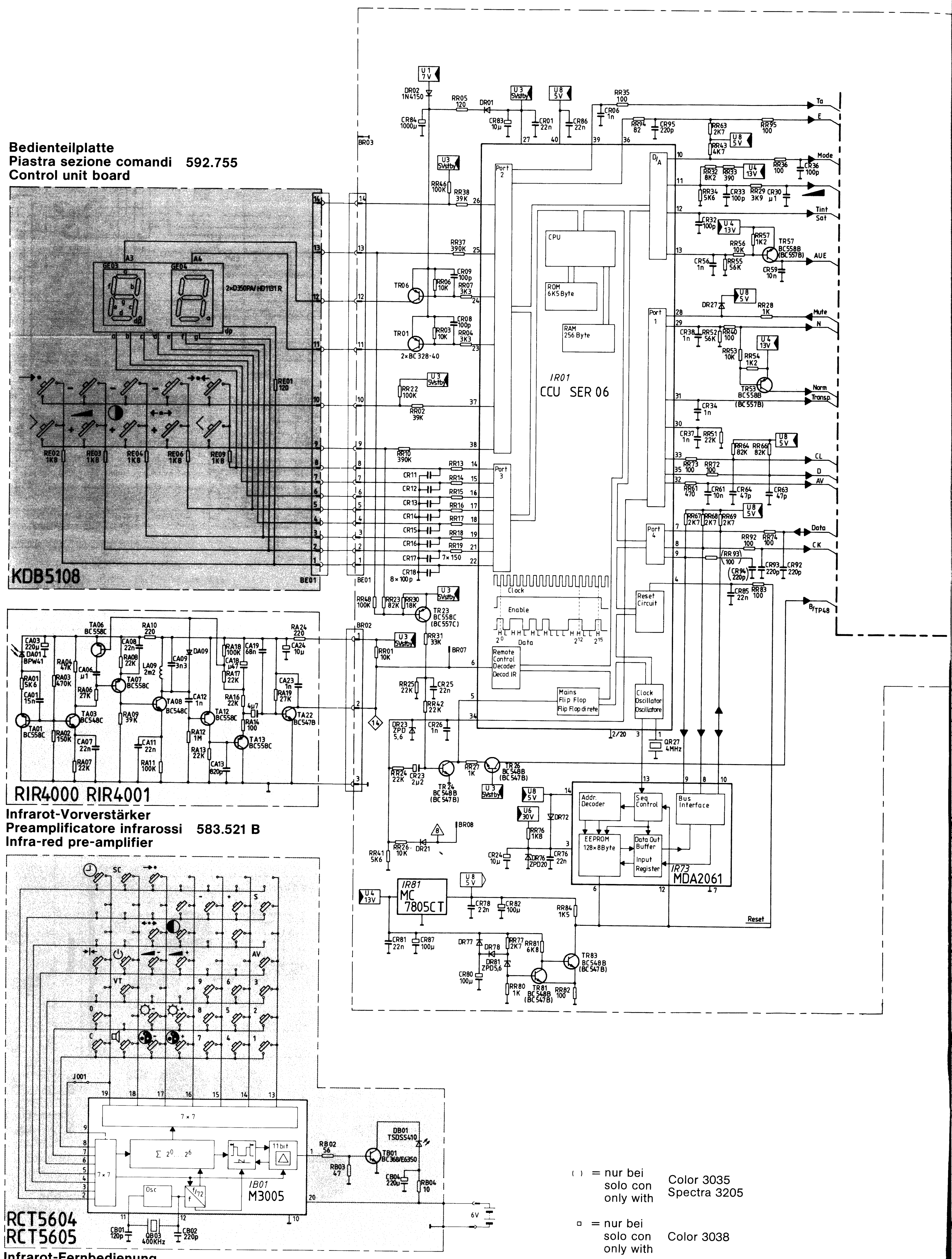
Leiterplatte UHF
Piastra UHF 276.799
P.C.B. UHF
Lötseite – Lato saldature – Soldered side


LP 02
LP 05
FP 05
CP 02
CP 01
RP 02
RP 01
RP 03
BP 02
BP 01
BP 01
220 – 240 V ~

Leiterplatte Netzfilter
Piastra bobina d'arresto 527.436
P.C.B. Mains filter
Lötseite – Lato saldature – Soldered side

Color 3035} Chassis F15 M-01 ICC 5115 ML
Spectra 3205}
Color 3038 – Chassis F15-02 785.522.B 01 115-01

NORDMENDE „Chassis 02" 110°


KDB5108
RIR4000 RIR4001
RCT5604
RCT5605
IR01
CCU SER 06
CPU
ROM 6K5 Byte
RAM 256 Byte
Port 1
Port 2
Port 3
Port 4
IR73
MDA2061
IR81
MC 7805CT
IB01
M3005
EEPROM 128×8 Byte
Reset
Mute
Norm
Transp
Data
CK
Tint
Sat
Mode
AUE
CL
AV

Bedienteilplatte
Piastra sezione comandi 592.755
Control unit board

Infrarot-Vorverstärker
Preamplificatore infrarossi 583.521 B
Infra-red pre-amplifier

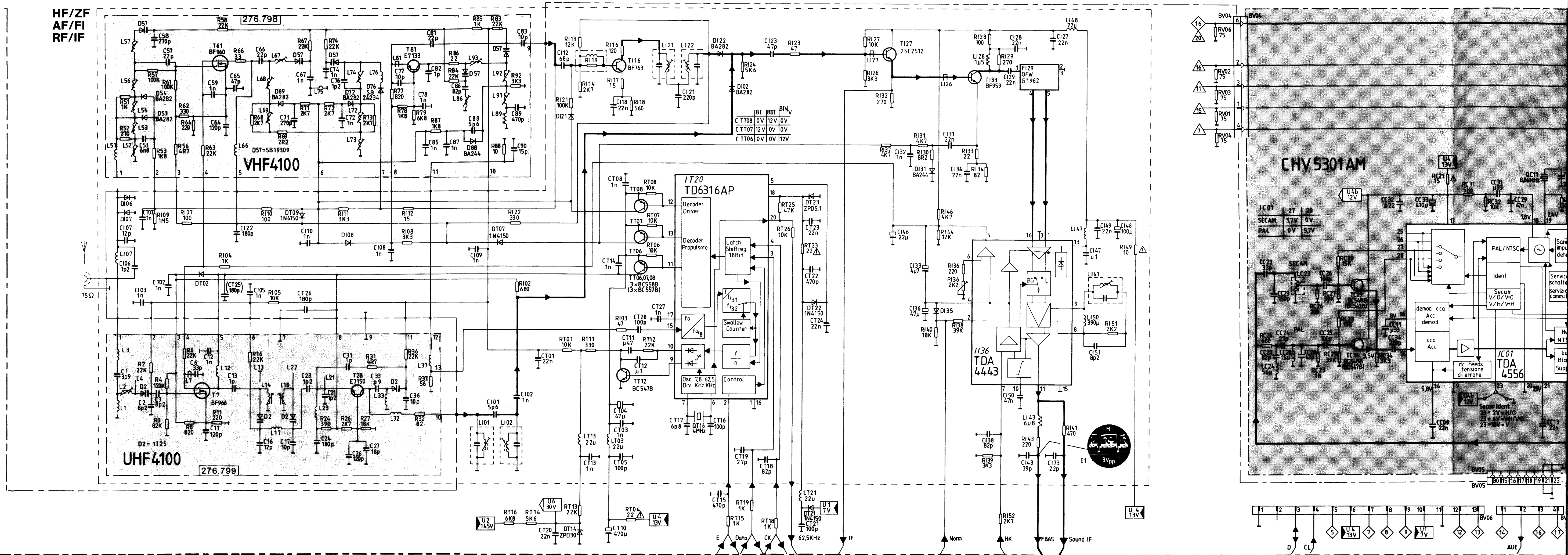
Infrarot-Fernbedienung
Telecomando infrarossi
Infra-red remote control

Computer Control 4
583.561

( ) = nur bei / solo con / only with — Color 3035, Spectra 3205

▫ = nur bei / solo con / only with — Color 3038

Chroma-Video-Modul
Modulo crominanza video 592.730
Chroma video module



HF/ZF
AF/FI
RF/IF
VHF4100
UHF4100
276.798
276.799
TD6316AP
TDA 4443
CHV5301AM
TDA 4556
PAL/NTSC
SECAM
Norm
HK
FBAS
Sound IF

△ = Euro-AV-Buchse Presa Peritelevisione Eurosocket			
1	NF/AF 'R' ○→ BF 'D' 0,5 V RMS	12	X
2	NF/AF 'R' ⊖ BF 'D' 0,5 V RMS	13	⊥ Video R
3	NF/AF 'L' ○→ BF 'S' 0,5 V RMS	14	X
4	⊥ NF/AF BF	15	Video R ⊖ 0,7 V RMS
5	⊥ Video B	16	Blanking ⊖ Spegnim. Video
6	NF/AF 'L' ⊖ BF 'S' 0,5 V RMS	17	⊥ Video
7	Video B ⊖ 0,7 V RMS	18	⊥ Blanking Spegnimento
8	Mode AV ≙ 12 V	19	Video ○→ 1 V_{pp}/75 Ω
9	⊥ Video G/V	20	Video ⊖ 1 V_{pp}/75 Ω
10	X	21	⊥ Chassis Telaio
11	Video G/V ⊖ 0,7 V RMS		V RMS = V_{eff} V_{pp} = V_{ss}

Achtung!

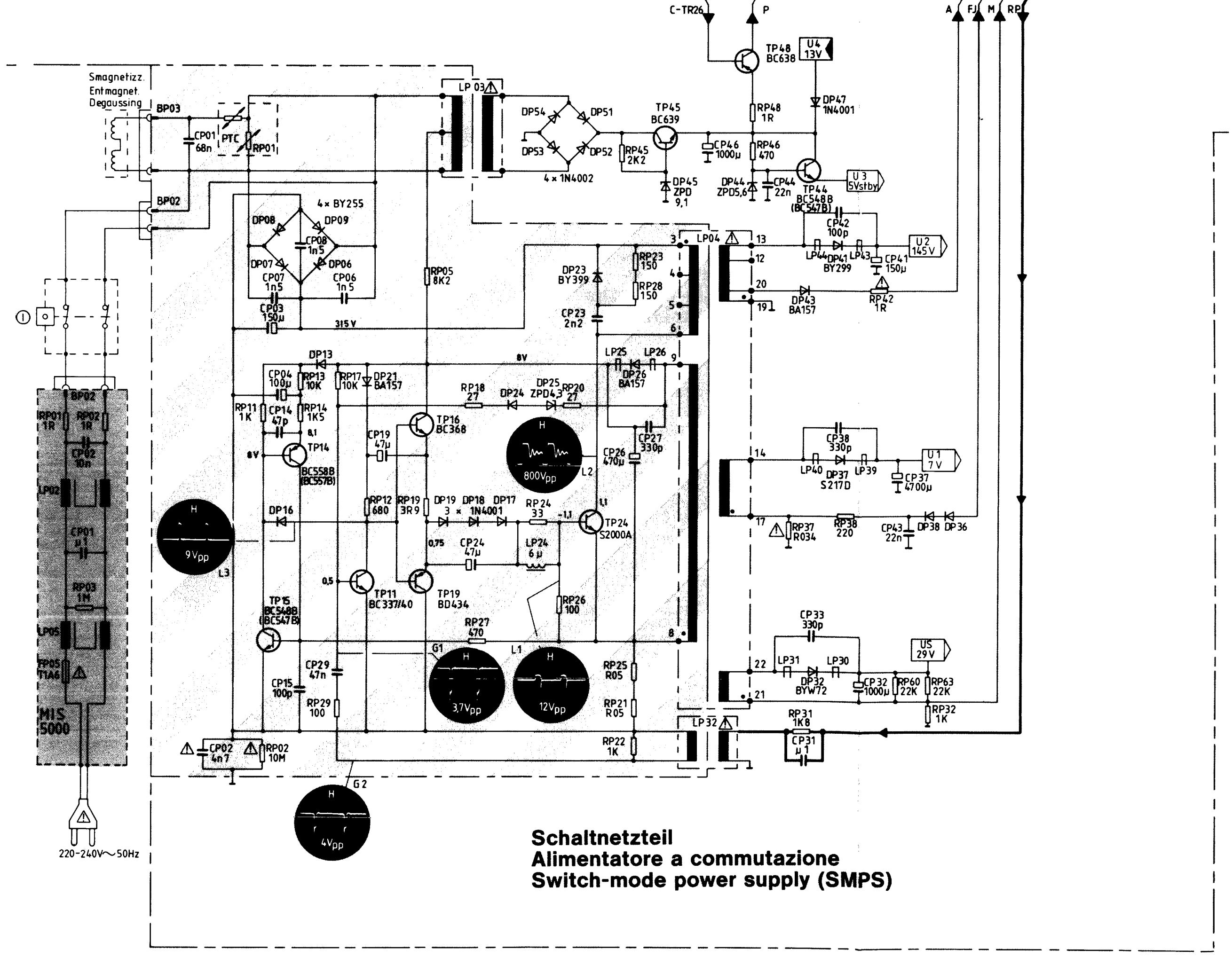
Bei Arbeiten am Schaltnetzteil Trenntrafo verwenden, und Messungen in diesem Bereich gegen Masse des Schaltnetzteils (Emitter TP 15) ausführen.

Attenzione!

Per i lavori sull'alimentatore a commutazione, bisogna utilizzare un trasformatore separatore ed effettuare le misurazioni in questo ambito verso massa dell'alimentatore a commutazione (emettitore TP 15).

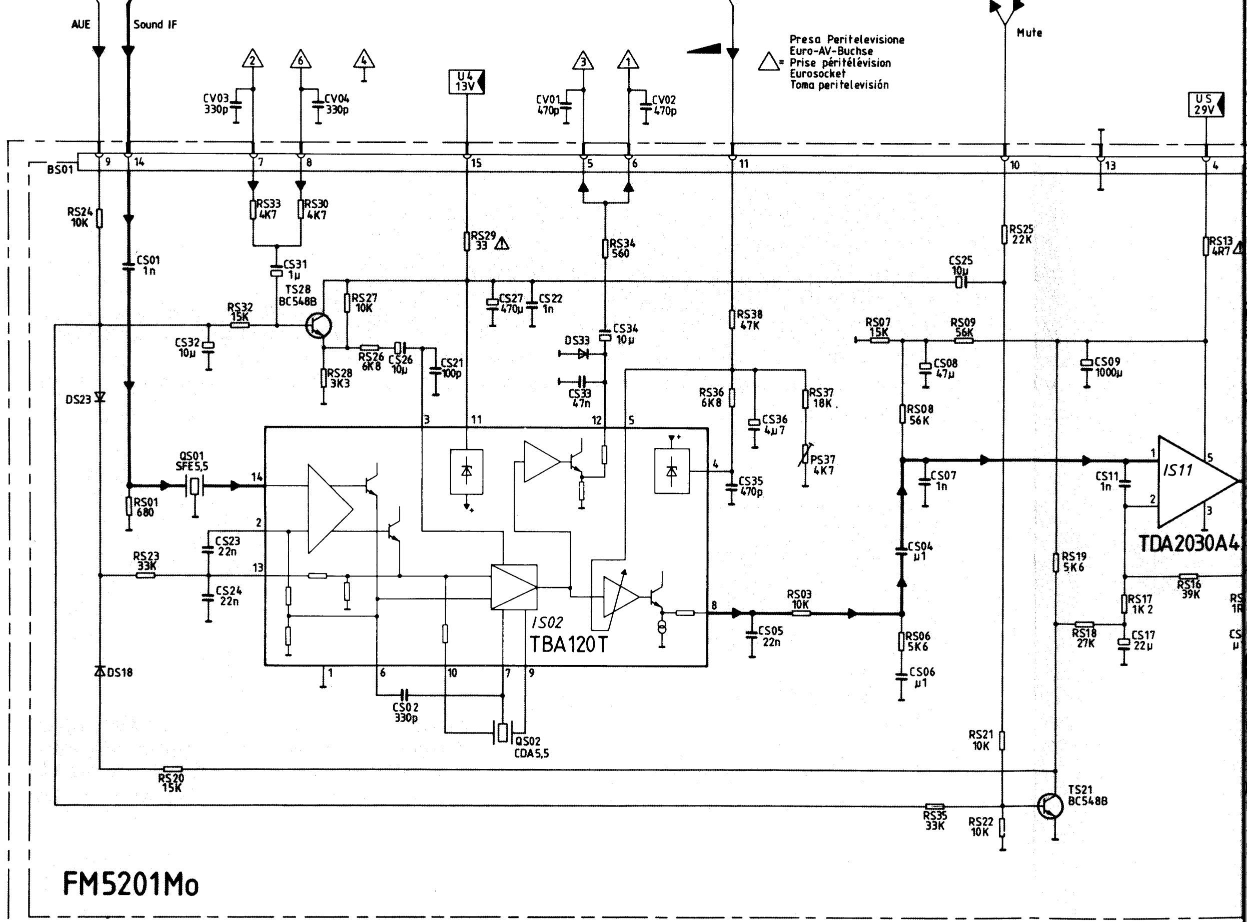
Attention!

When carrying out repair work on components in the primary circuit of the switch mode power supply (SMPS), an isolating transformer must be employed. Measurements to be taken against ground within the primary side of the SMPS (emitter of TP 15).



Smagnetizz
Entmagnet
Degaussing
MIS 5000
220-240V~50Hz
4× BY255
4× 1N4002
9Vpp
800Vpp
37Vpp
12Vpp
4Vpp

Schaltnetzteil
Alimentatore a commutazione
Switch-mode power supply (SMPS)

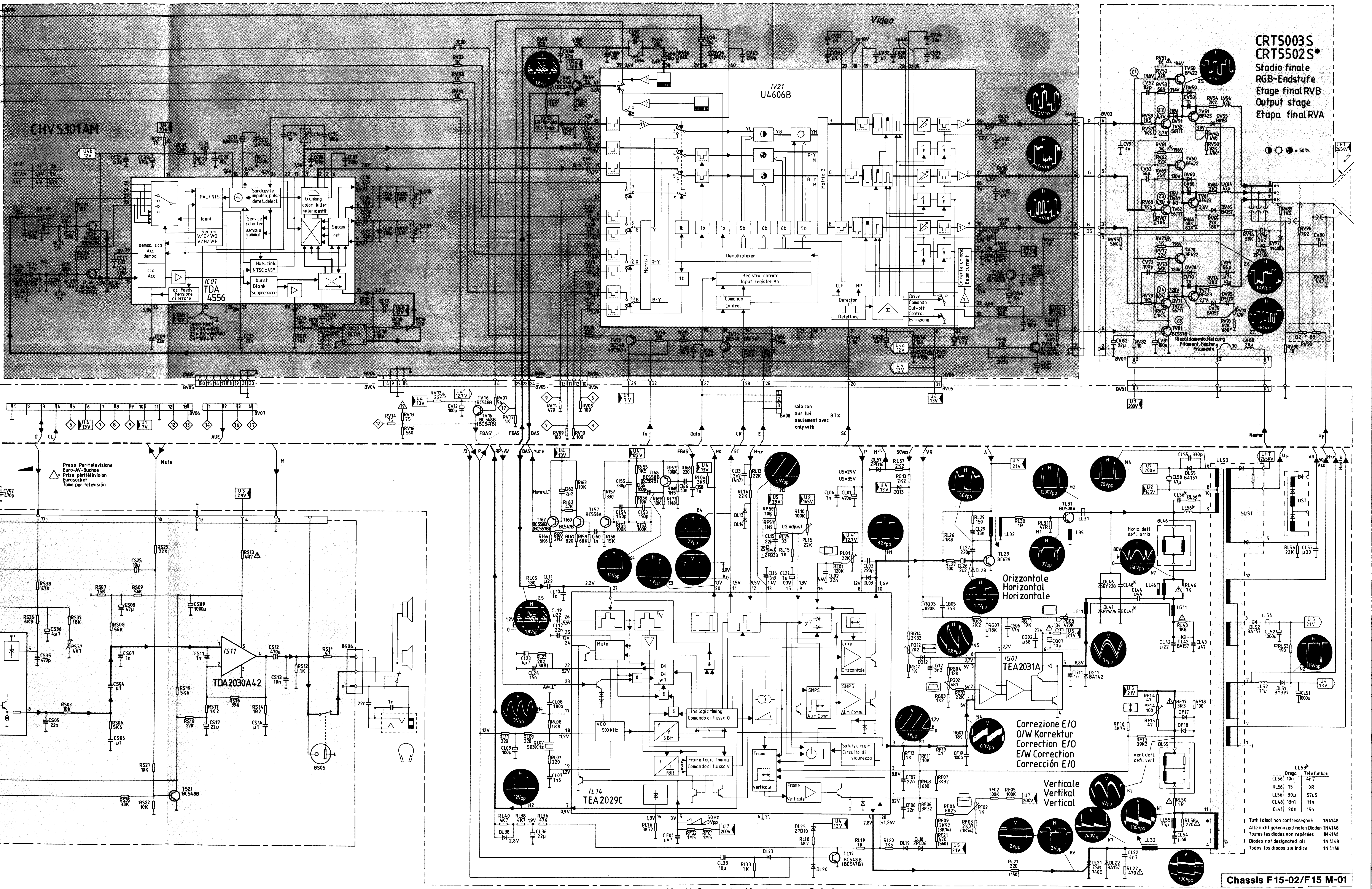


AUE
Sound IF
Mute
△= Presa Peritelevisione
Euro-AV-Buchse
Prise péritélévision
Eurosocket
Toma peritelevisión
TBA120T
TDA2030A
FM5201Mo

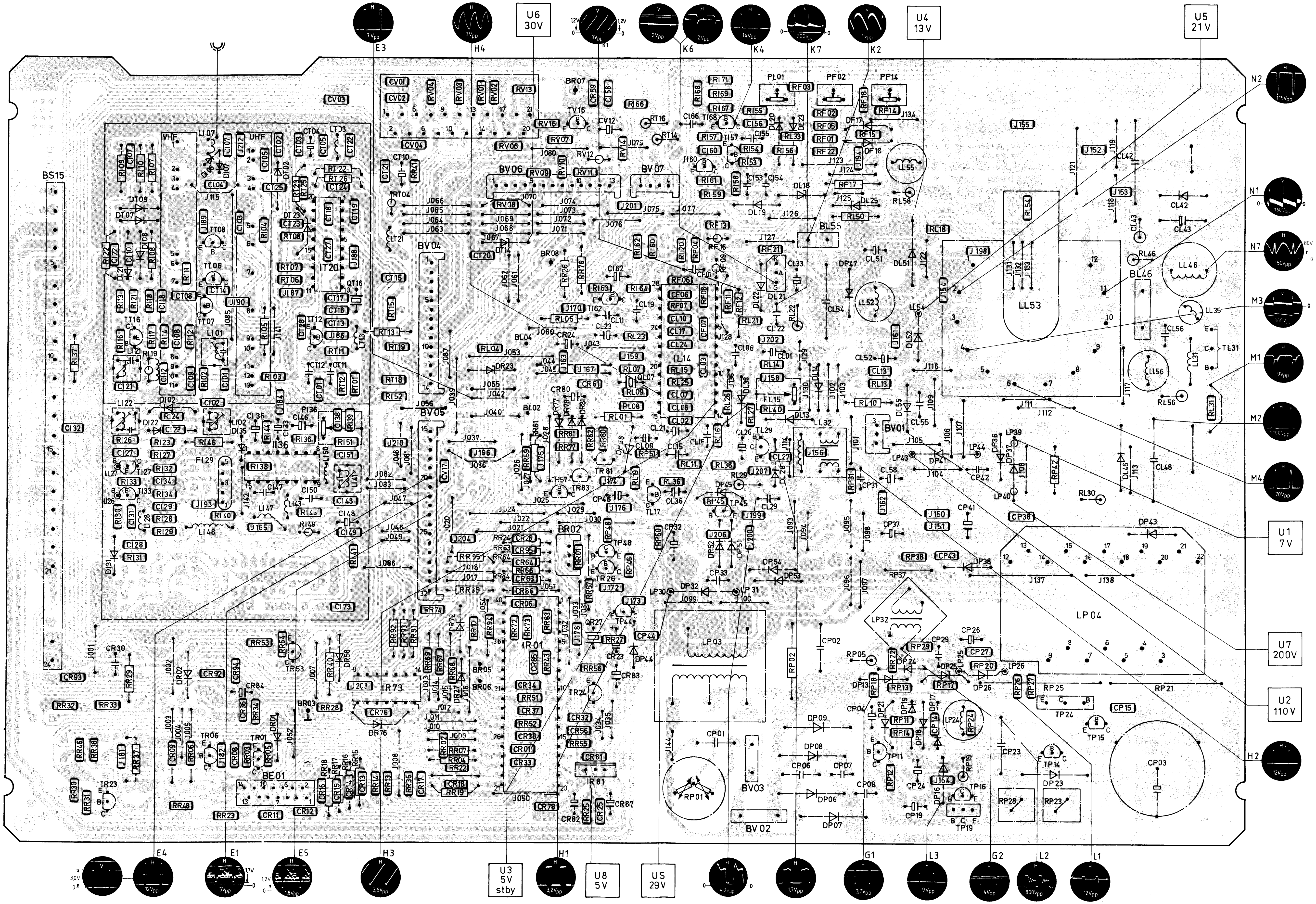
Ton-Modul
Modulo audio 592.980
Sound module

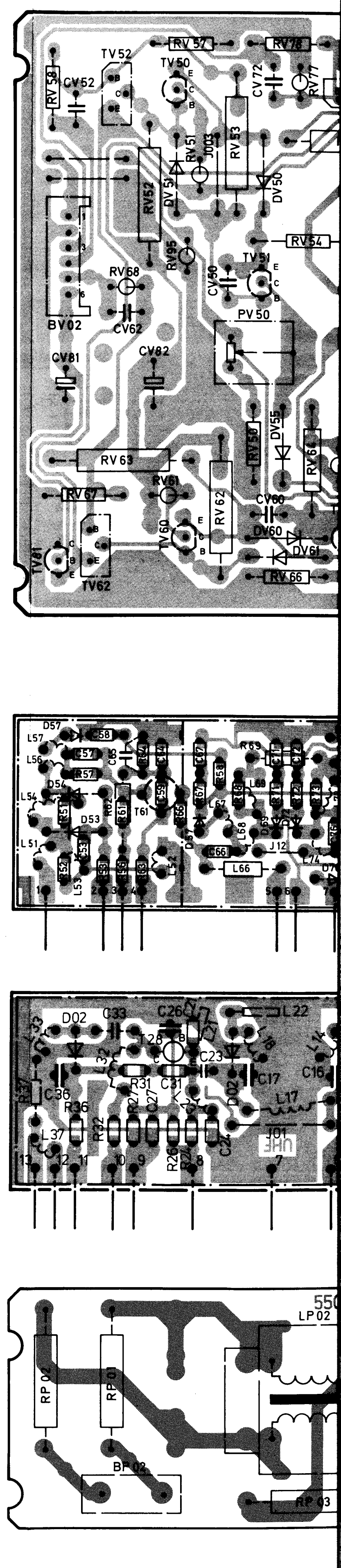
Chroma-Video-Modul
Modulo crominanza video 592.730
Chroma video module

Bildrohranschluß-Platine
Piastra zoccolo cinescopio 592.977
P.C.B. CRT socket


CHV5301AM
IC01 TDA 4556
PAL/NTSC
Ident
Sandcastle impulso, pulse detet. detect
blanking color killer killer identif
Service schalter servizio commut
Secam ref.
demod. cca Acc demod
cca Acc
dc Feeds tensione di errore
Hue tinta NTSC ±45°
burst Blank Suppressione
Video
IV21 U4606B
Matrix 1
Matrix 2
Demultiplexer
Registro entrata Input register 9b
Comando Control
Detector Detettore
Drive Comando Cut-off Control Estinzione
Corrente luminosa Beam current
CRT5003S
CRT5502S*
Stadio finale
RGB-Endstufe
Etage final RVB
Output stage
Etapa final RVA
Riscaldamento, Heizung Filament, Heater Filamento
solo con nur bei seulement avec only with BTX
Presa Peritelevisione Euro-AV-Buchse Prise péritélévision Eurosocket Toma peritelevisión
Mute
IS11 TDA2030A42
IL14 TEA2029C
Mute
VCO 500 KHz
Line logic timing Comando di flusso O
Frame logic timing Comando di flusso V
SMPS Alim. Comm.
Safety circuit Circuito di sicurezza
Line Orizzontale
Frame Verticale
IG01 TEA2031A
Orizzontale
Horizontal
Horizontale
Correzione E/O
O/W Korrektur
Correction E/O
E/W Correction
Corrección E/O
Verticale
Vertikal
Vertical
Horiz. defl. defl. orizz
Vert. defl. defl. vert.
SDST
DST
LL53* Orega Telefunken
CL56 10n 4n7
RL56 15 0R
LL56 30µ 57µ5
CL48 13n1 11n
CL41 20n 15n
Tutti i diodi non contrassegnati 1N4148
Alle nicht gekennzeichneten Dioden 1N4148
Toutes les diodes non repérées 1N4148
Diodes not designated all 1N4148
Todos los diodos sin indice 1N4148
Chassis F15-02/F15 M-01

V + H-Generator/Ansteuerung Schaltnetzteil
Generatore V + O/azionamento aliment. commutat.
V + H generator/control of SMPS

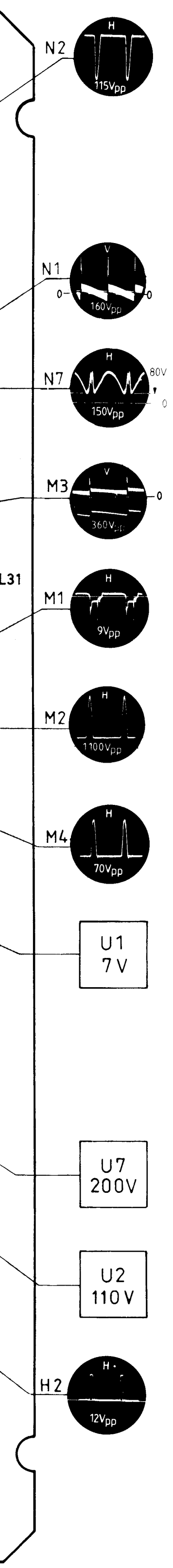

U6
30V
U4
13V
U5
21V
U1
7V
U7
200V
U2
110V
U3
5V
stby
U8
5V
US
29V
BS15
BV04
BV05
BV06
BV07
BV01
BV02
BV03
BE01
BR02
BL46
BL55
IT20
IL14
IR01
IR73
IR81
LL53
LP03
LP04
VHF
UHF

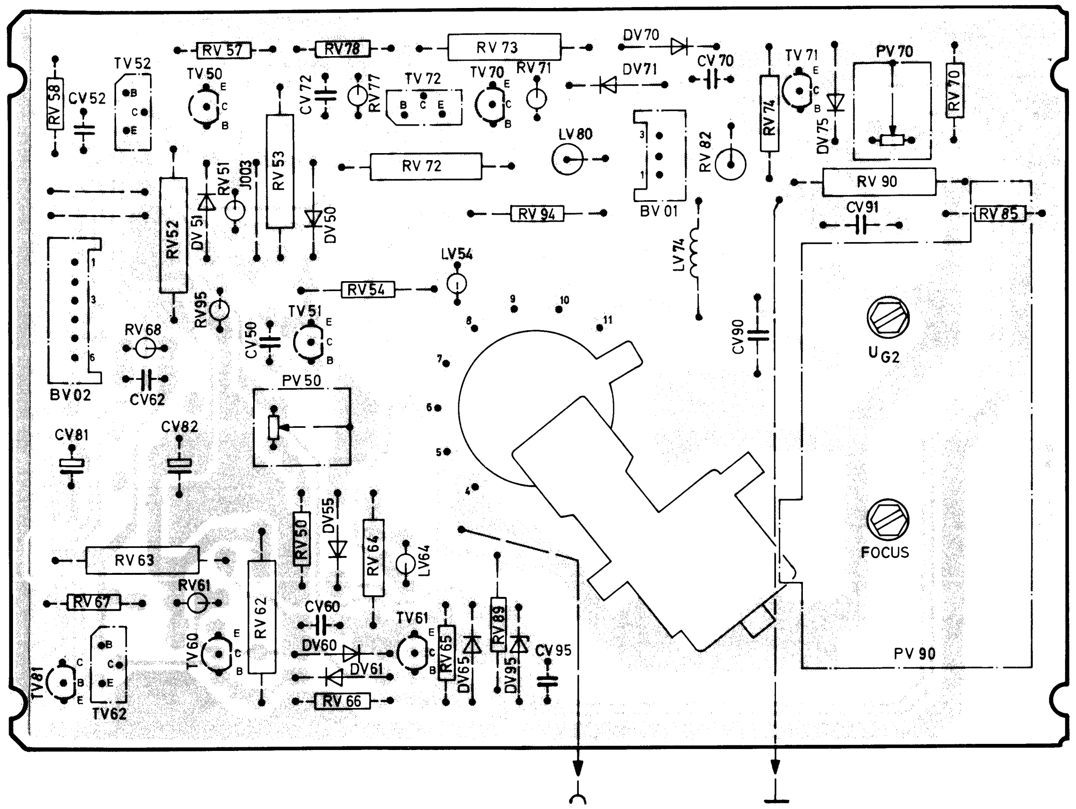


Grundplatte
Piastra di base F 16 M-01
Basic P.C.B.
Lötseite – Lato saldature – Soldered side

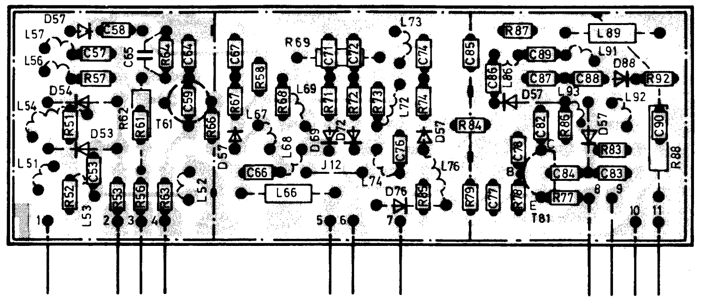
Color 3031 – Chassis F16

NORDMENDE

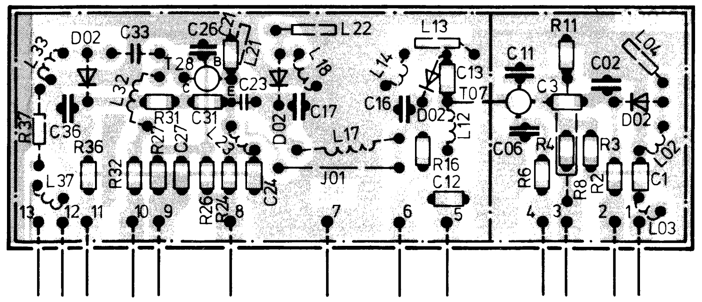



RV 57
RV 78
RV 73
DV 70
DV 71
CV 70
TV 71
PV 70
RV 70
RV 58
CV 52
TV 52
TV 50
CV 72
RV 77
TV 72
TV 70
RV 71
LV 80
RV 82
RV 74
DV 75
RV 53
RV 51
DV 51
J 003
DV 50
RV 72
BV 01
RV 90
CV 91
RV 85
RV 52
RV 94
LV 74
RV 95
RV 54
LV 54
RV 68
CV 62
BV 02
CV 50
TV 51
PV 50
CV 90
UG2
CV 81
CV 82
RV 50
DV 55
RV 64
LV 64
FOCUS
RV 63
RV 67
RV 61
CV 60
DV 60
DV 61
TV 61
RV 62
TV 60
RV 65
DV 65
RV 89
DV 95
CV 95
RV 66
TV 81
TV 62
PV 90

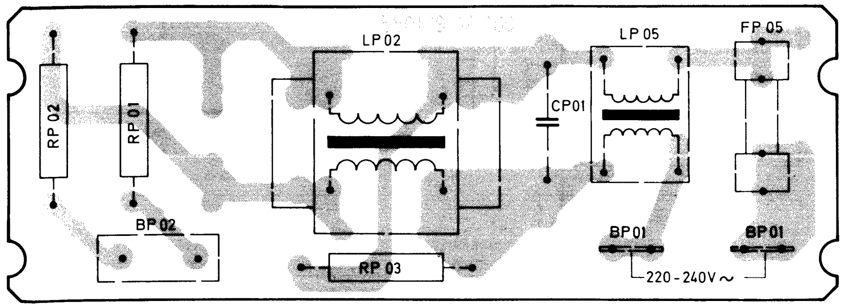
Bildrohranschluß-Platine
Piastra zoccolo cinescopio
P.C.B. CRT socket
592.977
Lötseite
Lato saldature
Soldered side


D57
L57
C58
C57
R57
L56
D54
L54
D53
L51
L73
L69
L62
L68
J12
C66
L66
L72
L76
R87
L89
L91
C89
D88
C87
C88
R92
D57
L93
L92
R84
C84
R83
C83
R77
T81
R88
C90

Leiterplatte VHF
Piastra VHF 276.798
P.C.B. VHF
Lötseite – Lato saldature – Soldered side


D02
C33
C26
L22
L13
R11
L33
L32
T28
C23
L18
L14
C11
C02
L04
R37
C36
R31
C31
C17
C16
C13
T07
C3
D02
L37
R36
R32
R27
R26
R24
C24
L17
J01
R16
C12
L12
C06
R4
R3
R2
R8
R6
C1
L03
13 12 11 10 9 8 7 6 5 4 3 2 1

Leiterplatte UHF
Piastra UHF 276.799
P.C.B UHF
Lötseite – Lato saldature – Soldered side


LP 02
LP 05
FP 05
RP 02
RP 01
CP01
BP 02
BP 01
BP 01
RP 03
220-240V ~

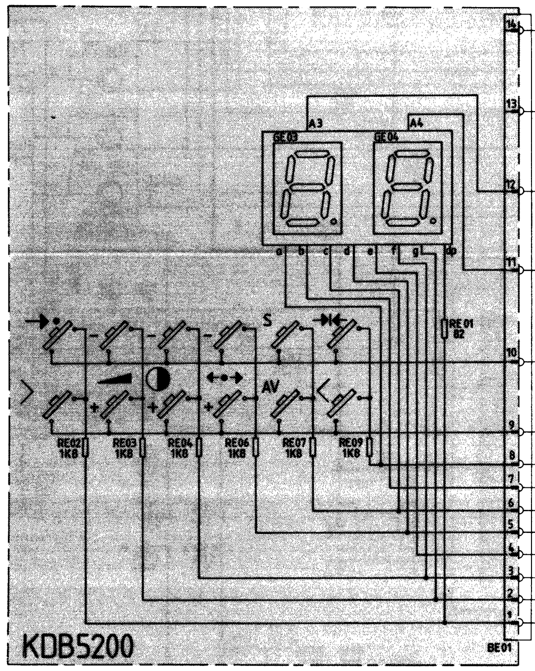
Leiterplatte Netzfilter
Piastra bobina d'arresto 527.436
P.C.B. Mains filter
Lötseite – Lato saldature – Soldered side

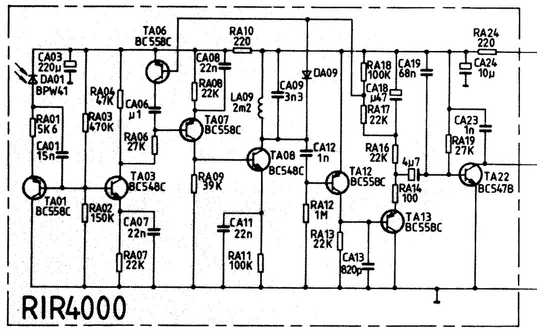
Color 3031 – Chassis F16M-01 ICC 5116 MM

NORDMENDE

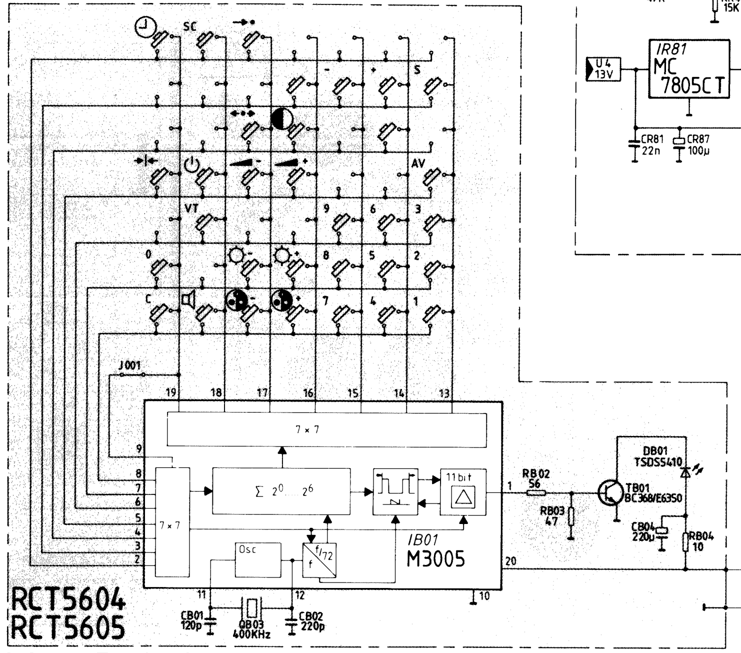
„Chassis 01" 90°

Bedienteilplatte
Piastra sezione comandi 592.756
Control unit board

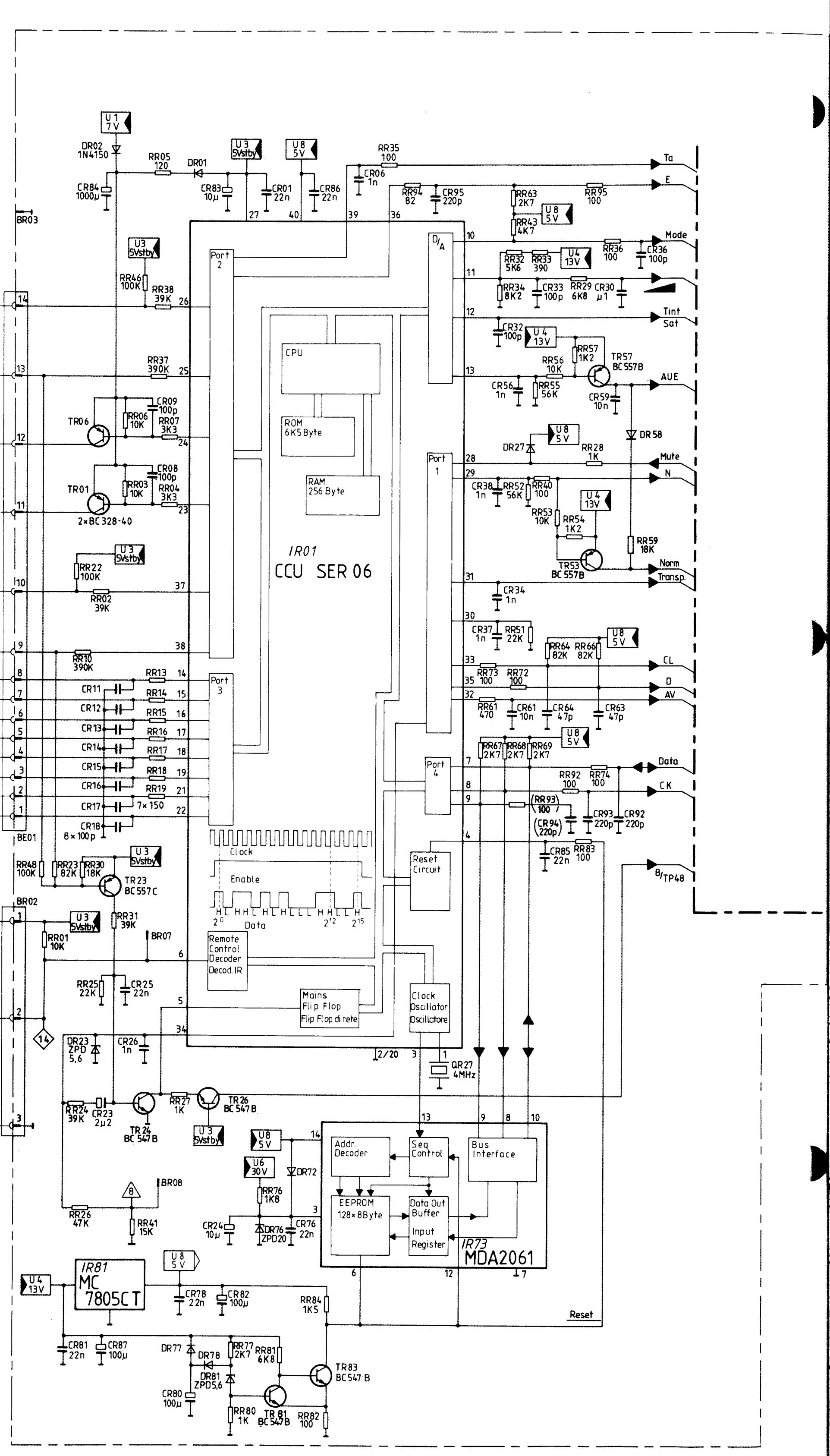

BE03
BE04
A3
A4
S
AV
RE01
82
RE02 1K8
RE03 1K8
RE04 1K8
RE06 1K8
RE07 1K8
RE09 1K8
KDB5200
BE01


CA03 220μ
DA01 BPW41
TA06 BC558C
RA10 220
RA24 220
CA24 10μ
CA08 22n
RA08 22K
CA09 3n3
DA09
RA18 100K
CA19 68n
CA18 μ47
RA17 22K
CA23 1n
RA19 27K
TA22 BC547B
RA04 47K
RA03 470K
CA04 μ1
TA07 BC558C
LA09 2m2
CA12 1n
TA08 BC548C
RA16 22K
RA01 5K6
CA01 15n
RA06 27K
RA09 39K
TA12 BC558C
RA14 100
TA13 BC558C
TA01 BC558C
RA02 150K
TA03 BC548C
CA07 22n
RA07 22K
CA11 22n
RA11 100K
RA12 1M
RA13 22K
CA13 820p
RIR4000

Infrarot-Vorverstärker
Preamplificatore infrarossi 583.521 B
Infra-red pre-amplifier


SC
AV
VT
J001
7×7
Σ 2⁰ 2⁶
11 bit
Osc
f/12
IB01
M3005
RB02 56
RB03 47
DB01 TSDS5410
TB01 BC368/E6350
CB04 220μ
RB04 10
6V
CB01 120p
QB03 400KHz
CB02 220p
RCT5604
RCT5605

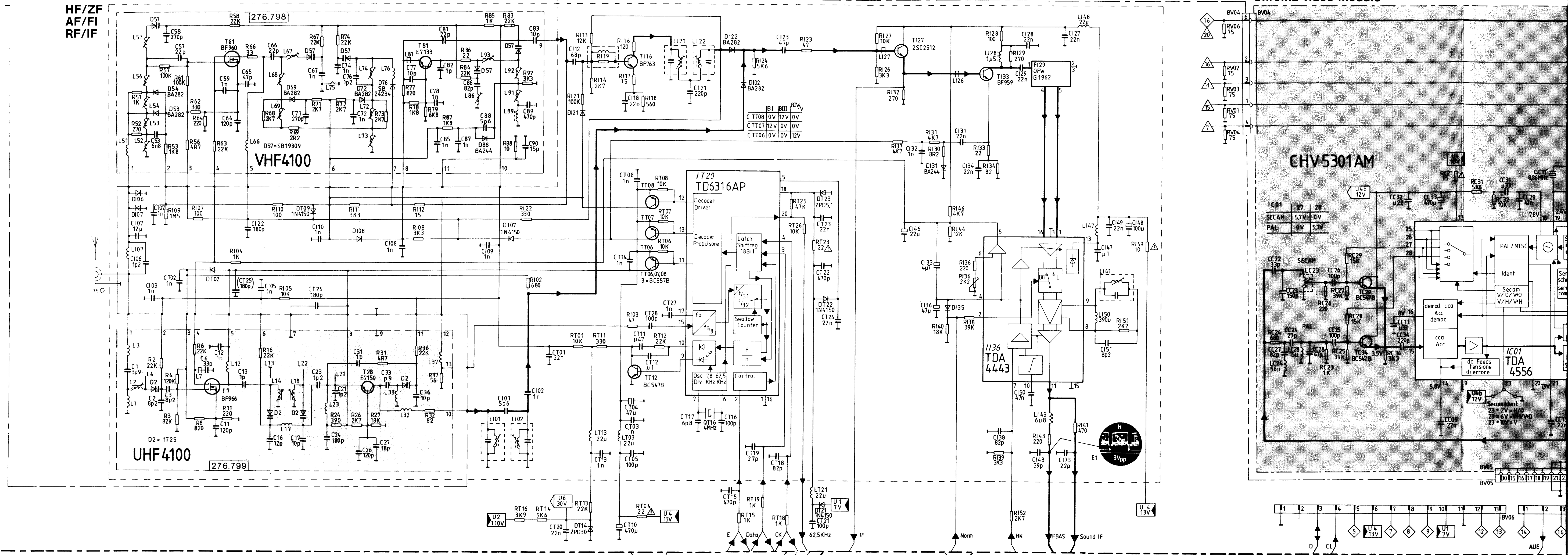
Infrarot-Fernbedienung
Telecomando infrarossi
Infra-red remote control


U1 7V
DR02 1N4150
CR84 1000μ
RR05 120
DR01
CR83 10μ
U3 5Vstby
CR01 22n
U8 5V
CR86 22n
RR35 100
CR06 1n
Ta
E
Mode
Tint
Sat
AUE
Mute
N
Norm
Transp
CL
D
AV
Data
CK
B/TP48
BR03
Port 2
Port 1
Port 3
Port 4
D/A
CPU
ROM 6K5 Byte
RAM 256 Byte
IR01
CCU SER 06
TR06
TR01
2×BC328-40
Clock
Enable
Data
Reset Circuit
Remote Control Decoder Decod IR
Mains Flip Flop
Clock Oscillator
QR27 4MHz
TR23 BC557C
TR24 BC547B
TR26 BC547B
BR02
BR07
BR08
Addr. Decoder
Seq. Control
Bus Interface
EEPROM 128×8 Byte
Data Out Buffer
Input Register
IR73
MDA2061
IR81
MC 7805CT
U4 13V
Reset
TR83 BC547B
TR81 BC547B
DR58
TR53 BC557B
TR57 BC557B

Computer Control 4
583.561

Chroma-Video-Modul
Modulo crominanza video 592.730
Chroma video module

HF/ZF
AF/FI
RF/IF


VHF4100
276.798
UHF4100
276.799
TD6316AP
IT20
Decoder Driver
Decoder Propulsore
Latch Shiftreg 18Bit
Swallow Counter
Control
TDA 4443
IT36
CHV5301AM
IC01
TDA 4556
PAL/NTSC
SECAM
PAL
Ident
Secam V/O/VH
demod cca Acc demod
cca Acc
dc Feeds tensione di errore
BF763
2SC2512
BF959
OFW G1962
BF960
BF966
E7150
E7133
3×BC557B
BC547B
BA282
BA244
1N4150
Norm
HK
FBAS
Sound IF
IF
Data
CK
E
AUE
D
CL
BV04
BV05
BV06

Pin	
△	= Euro-AV-Buchse Presa Peritelevisione Eurosocket
1	NF/AF 'R' ○→ BF 'D' 0,5 V RMS
2	NF/AF 'R' ○← BF 'D' 0,5 V RMS
3	NF/AF 'L' ○→ BF 'S' 0,5 V RMS
4	⏊ NF/AF BF
5	⏊ Video B
6	NF/AF 'L' ○← BF 'S' 0,5 V RMS
7	Video B ○← 0,7 V RMS
8	Mode AV ≙ 12 V
9	⏊ Video G/V
10	X
11	Video G/V ○← 0,7 V RMS
12	X
13	⏊ Video R
14	X
15	Video R ○← 0,7 V RMS
16	Blanking ○← Spegnim. Video
17	⏊ Video
18	⏊ Blanking Spegnimento
19	Video ○→ 1 V_{pp}/75 Ω
20	Video ○← 1 V_{pp}/75 Ω
21	⏊ Chassis Telaio

V RMS = V_{eff}
V_{pp} = V_{ss}

Achtung!

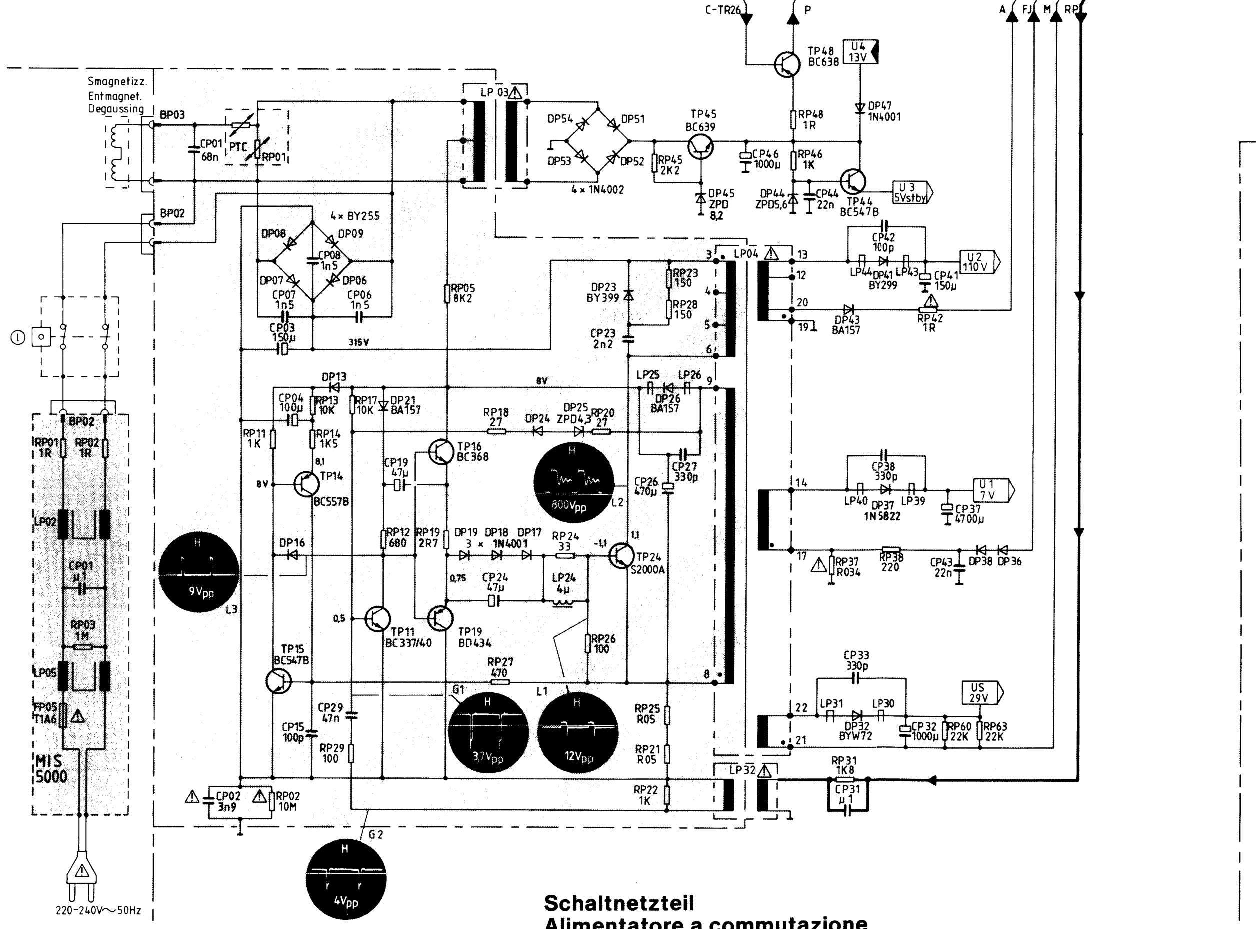
Bei Arbeiten am Schaltnetzteil Trenntrafo verwenden, und Messungen in diesem Bereich gegen Masse des Schaltnetzteils (Emitter TP 15) ausführen.

Attenzione!

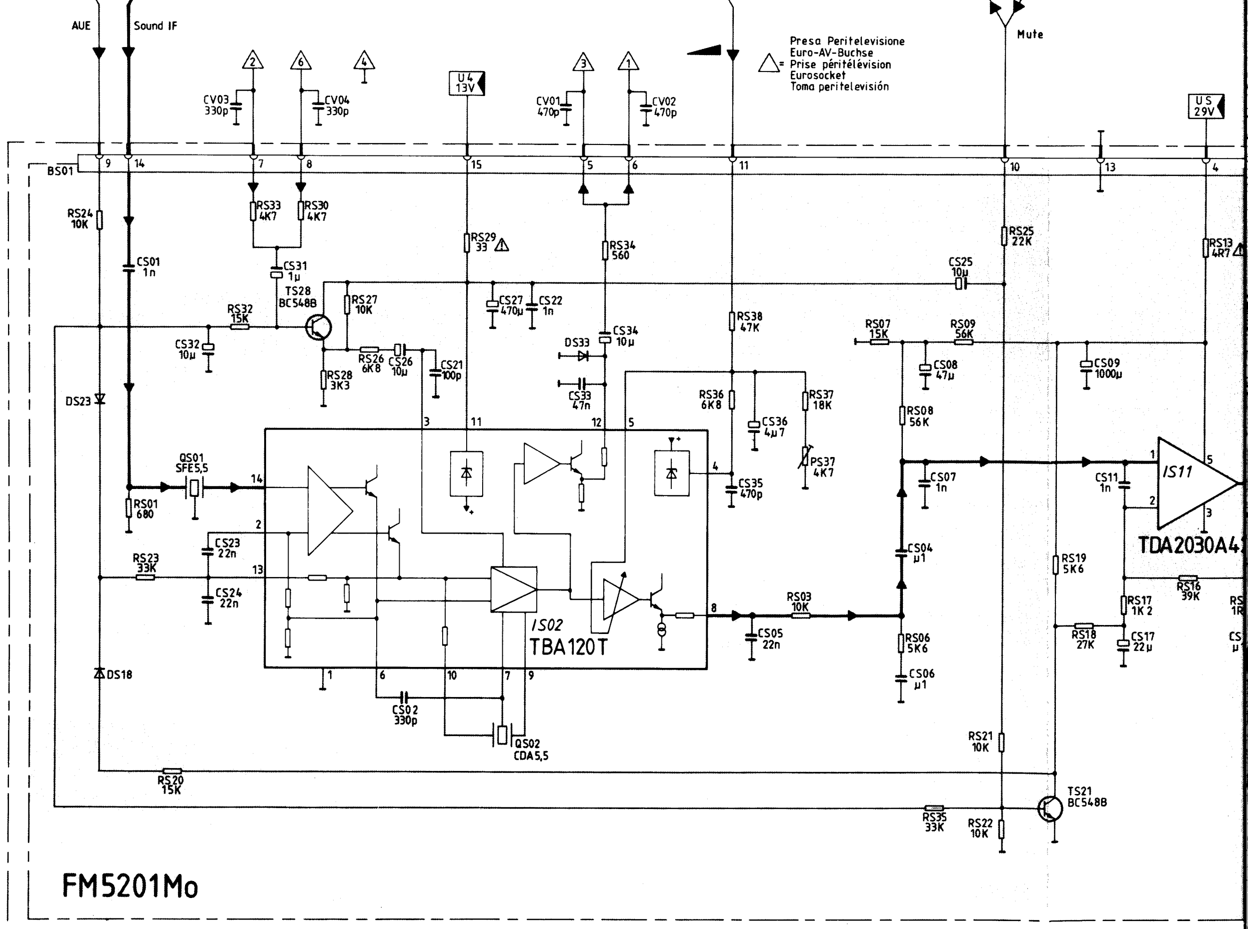
Per i lavori sull'alimentatore a commutazione, bisogna utilizzare un trasformatore separatore ed effettuare le misurazioni in questo ambito verso massa dell'alimentatore a commutazione (emettitore TP 15).

Attention!

When carrying out repair work on components in the primary circuit of the switch mode power supply (SMPS), an isolating transformer must be employed. Measurements to be taken against ground within the primary side of the SMPS (emitter of TP 15).


Smagnetizz Entmagnet. Degaussing
BP03
BP02
PTC
MIS 5000
T1A6
220-240V~50Hz
4×BY255
4×1N4002
BC557B
BC368
BC337/40
BD434
S2000A
BC639
BC638
BC547B
BY299
BA157
BYW72
1N5822
9Vpp
600Vpp
3,7Vpp
12Vpp
4Vpp
U2 110V
U3 5Vstby
U1 7V
U5 29V
U6 30V
C-TR26
P

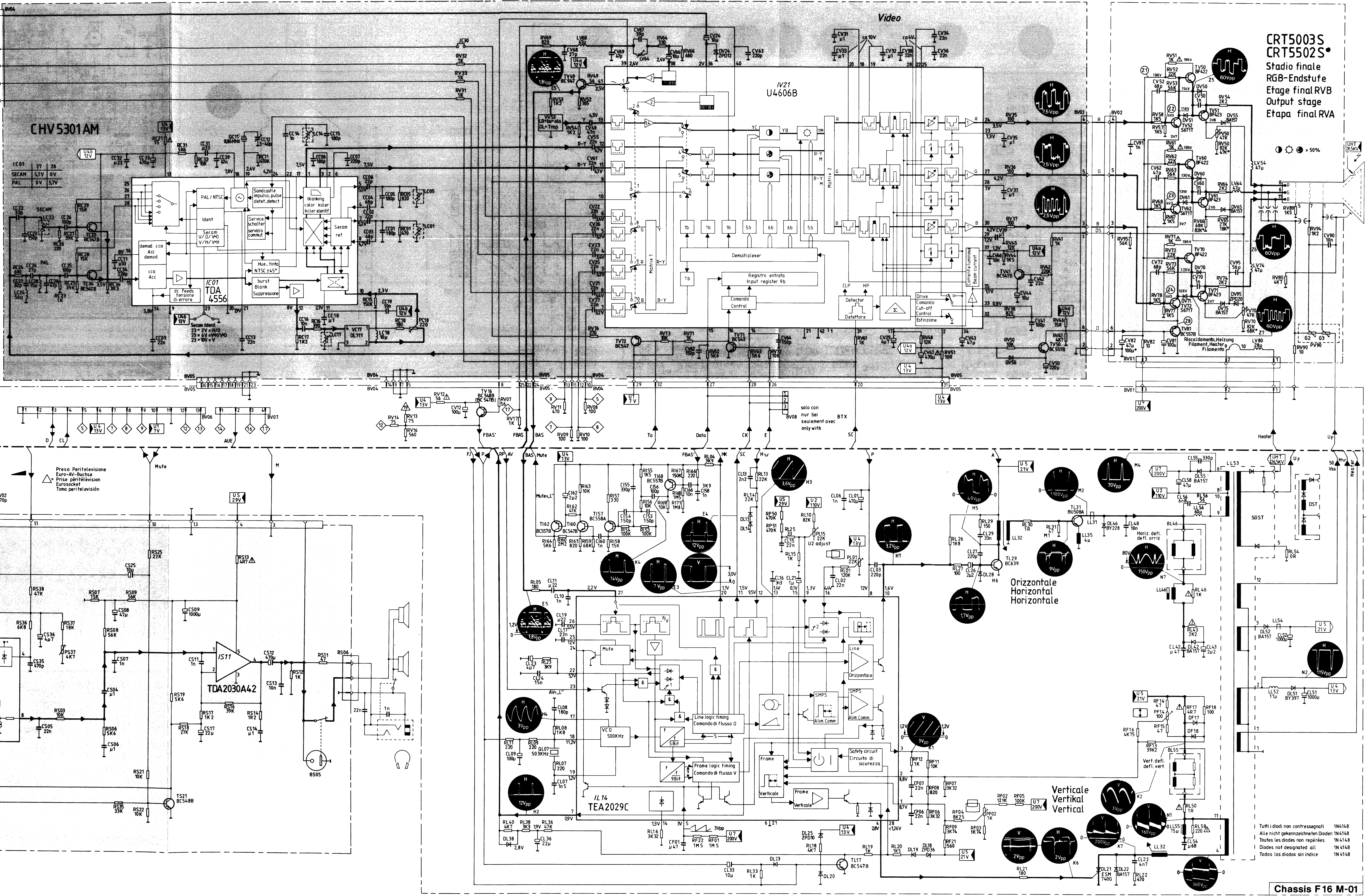
Schaltnetzteil
Alimentatore a commutazione
Switch-mode power supply (SMPS)


Presa Peritelevisione
Euro-AV-Buchse
Prise péritélévision
Eurosocket
Toma peritelevisión
AUE
Sound IF
Mute
BS01
SFE5,5
IS02
TBA120T
IS11
TDA2030A
BC548B
CDA5,5
FM5201Mo

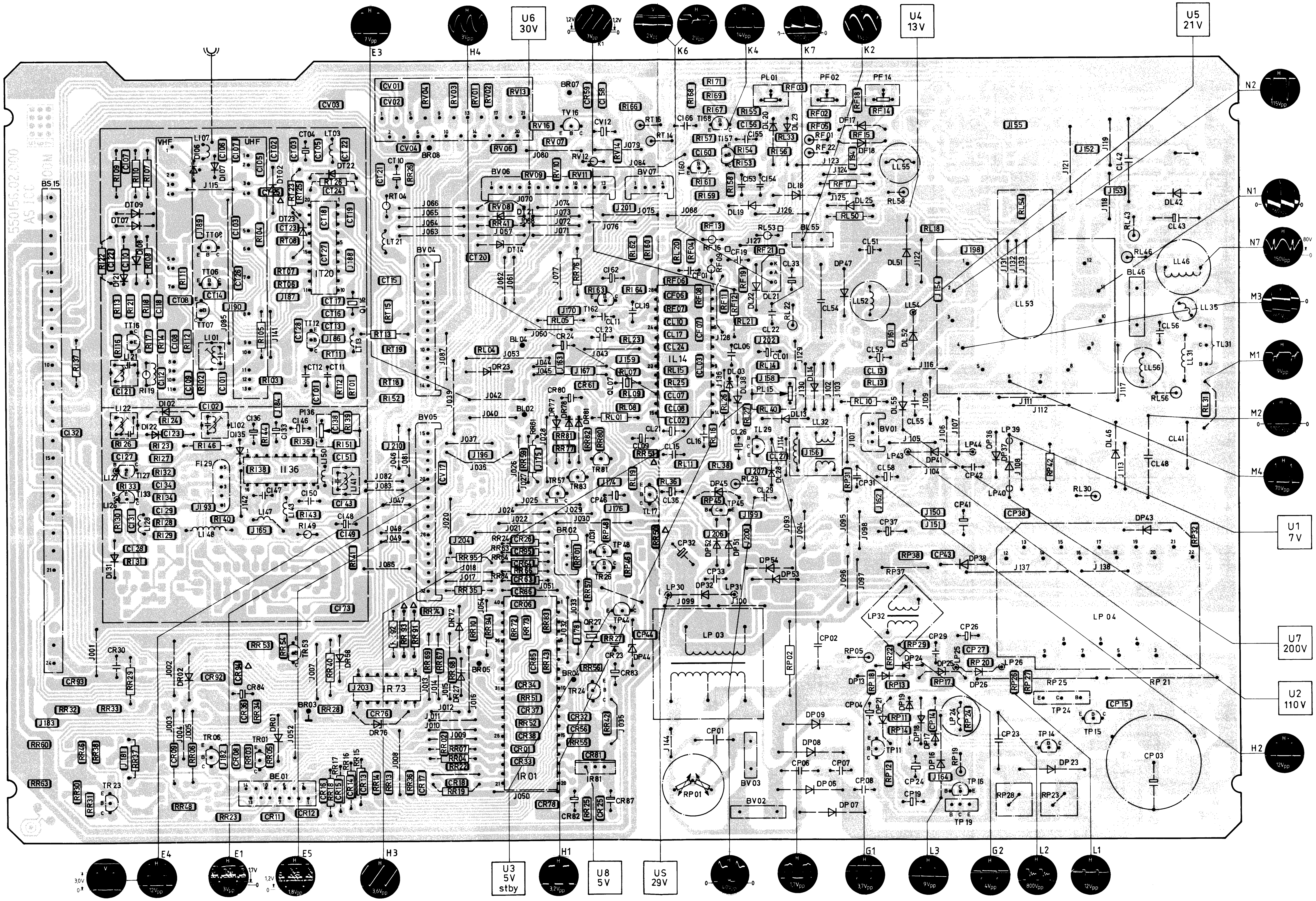
Ton-Modul
Modulo audio 592.980
Sound module

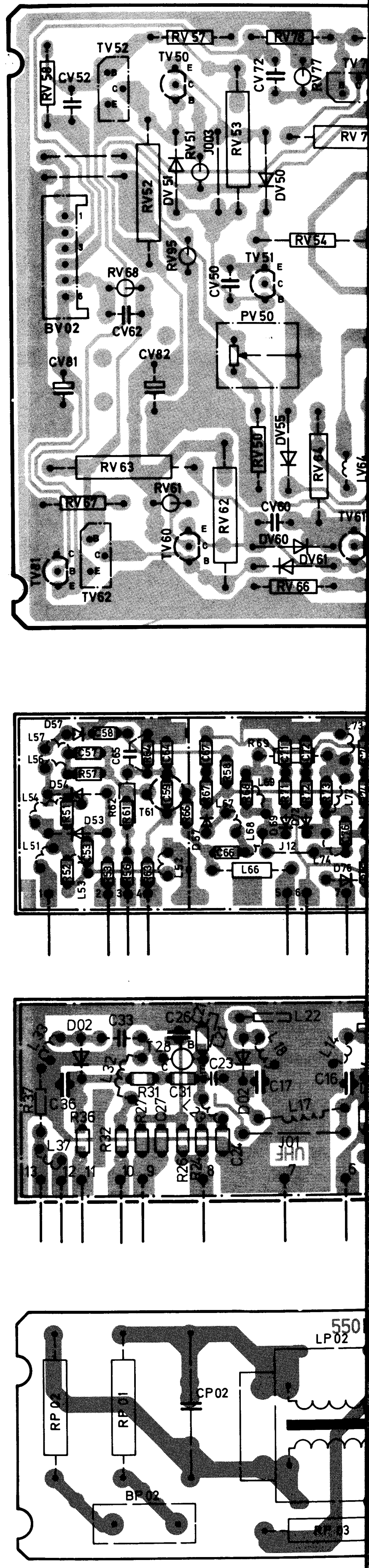
Chroma-Video-Modul
Modulo crominanza video 592.730
Chroma video module

Bildrohranschluß-Platine
Piastra zoccolo cinescopio 592.977
P.C.B. CRT socket


CHV5301AM
Video
IV21 U4606B
IC01 TDA 4556
Matrix 1
Matrix 2
Demultiplexer
Registro entrata Input register 9b
Comando Control
Detector Detettore
Corrente luminosa Beam current
CRT5003S
CRT5502S•
Stadio finale
RGB-Endstufe
Etage final RVB
Output stage
Etapa final RVA
Riscaldamento, Heizung Filament, Heater Filamento
Presa Peritelevisione
Euro-AV-Buchse
Prise péritélévision
Eurosocket
Toma peritelevisión
IS11 TDA2030A42
IL14 TEA2029C
Line logic timing Comando di flusso O
Frame logic timing Comando di flusso V
Safety circuit Circuito di sicurezza
VCO 500KHz
Orizzontale
Horizontal
Horizontale
Verticale
Vertikal
Vertical
Mute
solo con nur bei seulement avec only with BTX
Tutti i diodi non contressegnati 1N4148
Alle nicht gekennzeichneten Dioden 1N4148
Toutes les diodes non repérées 1N4148
Diodes not designated all 1N4148
Todos los diodos sin indice 1N4148

V + H-Generator/Ansteuerung Schaltnetzteil
Generatore V + O/azionamento aliment. commutat.
V + H generator/control of SMPS


E3
H4
U6
30V
K1
K6
K4
K7
K2
U4
13V
U5
21V
N2
N1
N7
M3
M1
M2
M4
U1
7V
U7
200V
U2
110V
H2
E4
E1
E5
H3
U3
5V
stby
H1
U8
5V
US
29V
G1
L3
G2
L2
L1
VHF
UHF
IL14
LP 03
LP 04
CP 03
LL 53


TV52
TV50
TV51
BV02
PV50
TV60
TV61
TV62
BF02
CP02

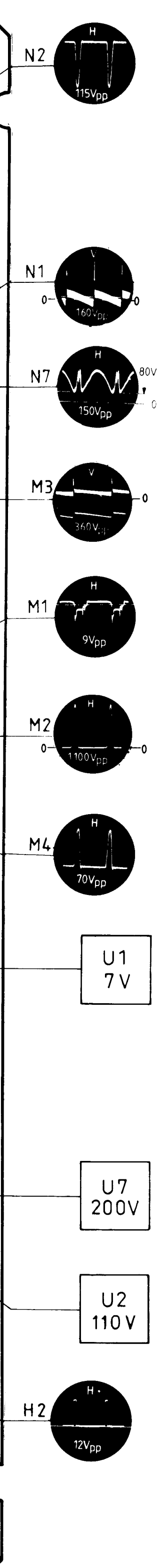
Grundplatte
Piastra di base F 16-02
Basic P.C.B.
Lötseite – Lato saldature – Soldered side

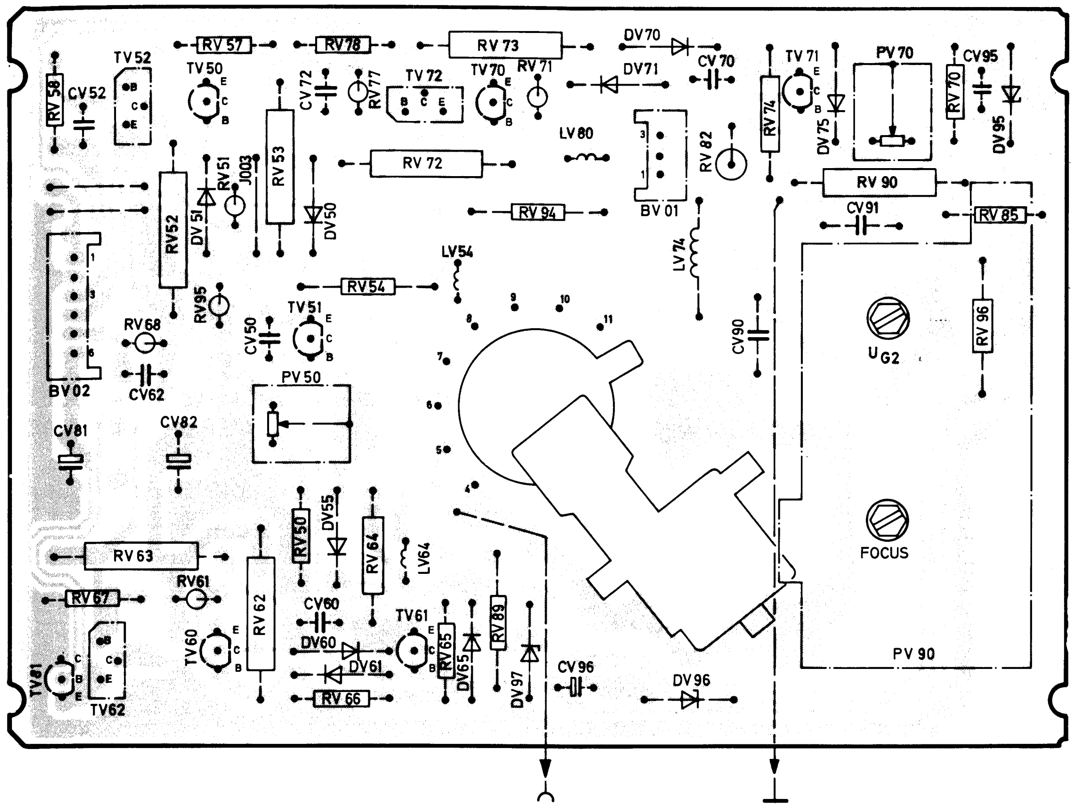
△ = nur bei
solo con
only with
Color 3031

□ = nur bei
solo con
only with
Color 3201

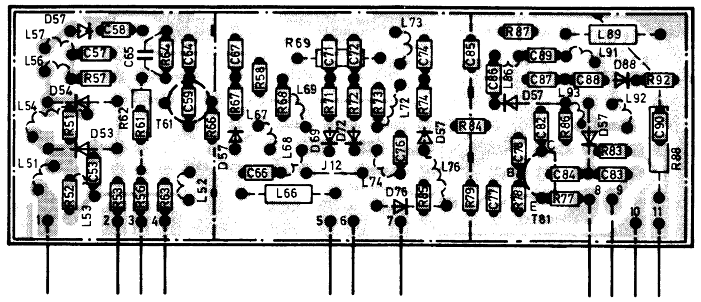
Color 3031 – Chassis F
Spectra 3201 – Chassis F

NORDMENDE

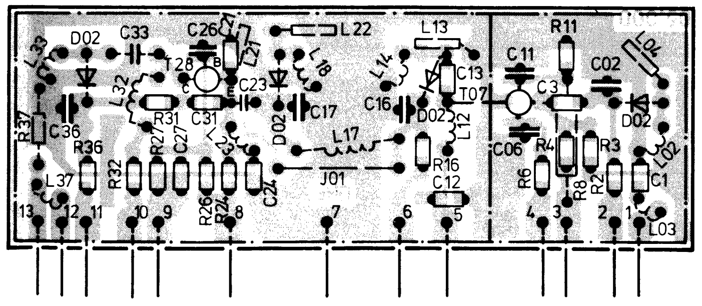

N2
115Vpp
N1
160Vpp
N7
150Vpp
M3
140Vpp
M1
9Vpp
M2
1100Vpp
M4
70Vpp
U1 7V
U7 200V
U2 110V
H2
12Vpp


RV 57
RV 78
RV 73
DV70
DV71
CV70
TV 71
PV 70
CV95
TV 52
TV 50
CV 72
TV 72
TV 70
RV 71
RV 58
CV52
RV 72
LV 80
BV 01
RV 90
CV91
RV 94
RV 85
RV 52
RV 53
DV 51
J003
DV 50
RV 82
LV 74
RV 74
DV 75
RV 70
DV 95
LV 54
RV 54
RV 95
TV 51
CV 50
RV 68
CV 62
BV 02
CV 90
UG2
RV 96
PV 50
CV 81
CV 82
RV 50
DV 55
RV 64
LV 64
RV 63
RV 61
RV 62
FOCUS
RV 67
CV 60
DV 60
DV 61
TV 61
RV 65
RV 89
DV 65
DV 97
CV 96
DV 96
PV 90
TV 60
TV 61
TV 62
RV 66

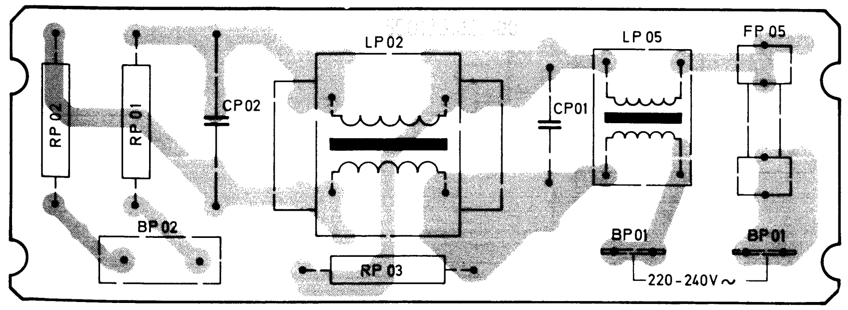
Bildrohranschluß-Platine
Piastra zoccolo cinescopio
P.C.B. CRT socket
592.977
Lötseite
Lato saldature
Soldered side


L57
L56
L54
L51
D57
C58
C57
R57
D56
D53
T61
L73
R87
L89
L91
D88
R92
L92
C90
R88
L66
C66
L76
T81
J12
1
2
3
4
5
6
7
8
9
10
11

Leiterplatte VHF
Piastra VHF 276.798
P.C.B. VHF
Lötseite – Lato saldature – Soldered side


D02
C33
C26
L22
L13
R11
C11
C02
T28
C23
C17
C16
D02
C13
T07
C3
C36
R36
L37
R32
R31
C31
L32
L17
J01
R16
C12
C06
R4
R6
R8
R3
R2
C1
L03
13
12
11
10
9
8
7
6
5
4
3
2
1

Leiterplatte UHF
Piastra UHF 276.799
P.C.B UHF
Lötseite – Lato saldature – Soldered side

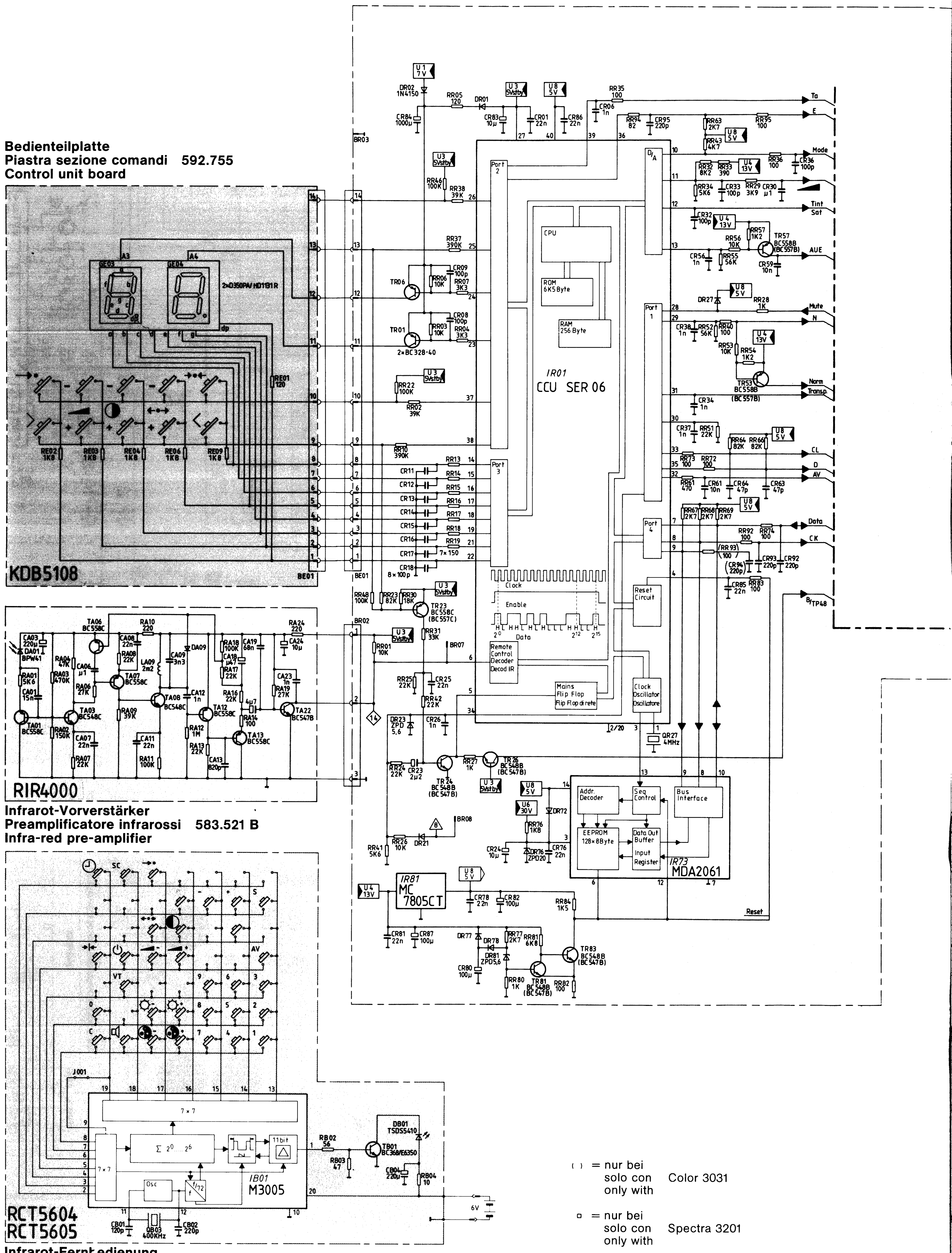

LP 02
LP 05
FP 05
CP02
CP01
RP 02
RP 01
BP 02
BP 01
BP 01
RP 03
220-240V~

Leiterplatte Netzfilter
Piastra bobina d'arresto 527.436
P.C.B. Mains filter
Lötseite – Lato saldature – Soldered side

Color 3031 – Chassis F16M-02 ICC 5116 MM
Spectra 3201 – Chassis F16-02 785.526.B 01 116-01

NORDMENDE „Chassis 02" 90°

Bedienteilplatte
Piastra sezione comandi 592.755
Control unit board


KDB5108
2×D350PA/HD1131R
BE01
RIR4000
RCT5604
RCT5605
IR01
CCU SER 06
CPU
ROM 6K5 Byte
RAM 256 Byte
Port 1
Port 2
Port 3
Port 4
Clock
Enable
Data
Remote Control Decoder Decod IR
Mains Flip Flop Flip Flop di rete
Reset Circuit
Clock Oscillator Oscillatore
QR27 4MHz
IR73
MDA2061
Addr. Decoder
Seq Control
Bus Interface
EEPROM 128×8Byte
Data Out Buffer
Input Register
IR81
MC 7805CT
IB01
M3005
Osc
Reset
Ta
E
Mode
Tint
Sat
AUE
Mute
N
Norm
Transp
CL
D
AV
Data
CK
TP48
6V
DB01 TSDS5410
TB01 BC368/E6350
QB03 400KHz

Infrarot-Vorverstärker
Preamplificatore infrarossi 583.521 B
Infra-red pre-amplifier

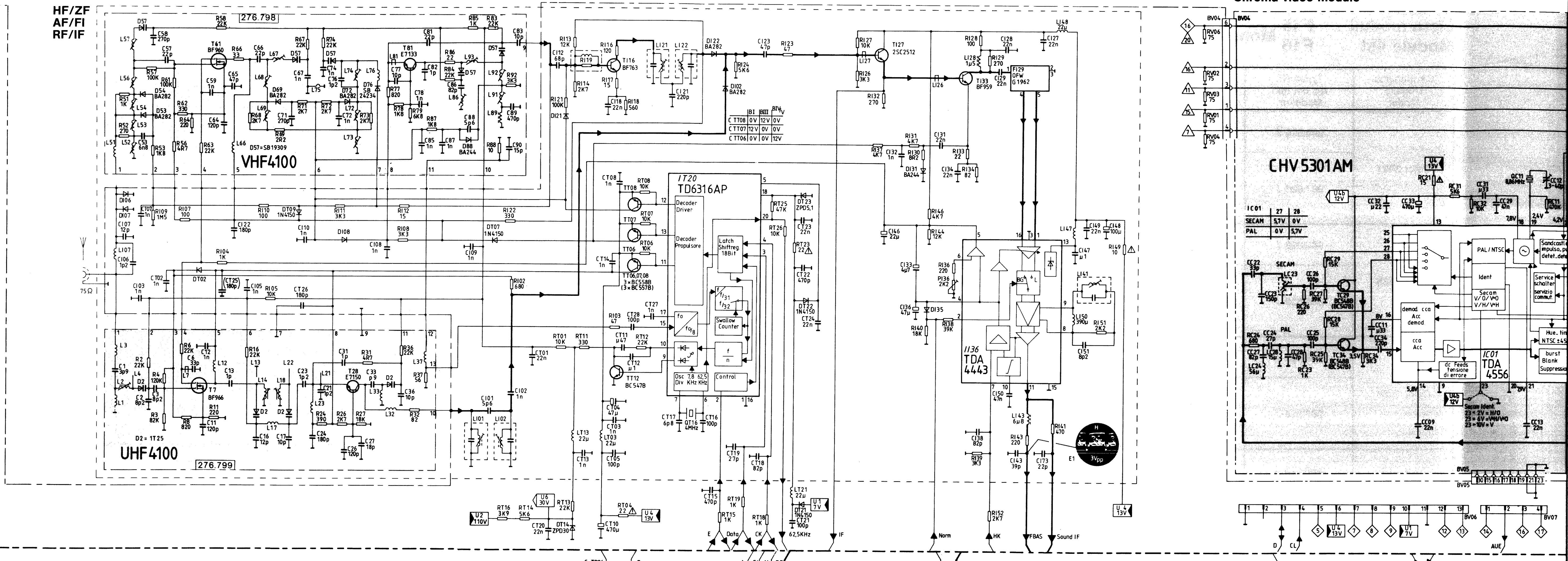
Infrarot-Fernbedienung
Telecomando infrarossi
Infra-red remote control

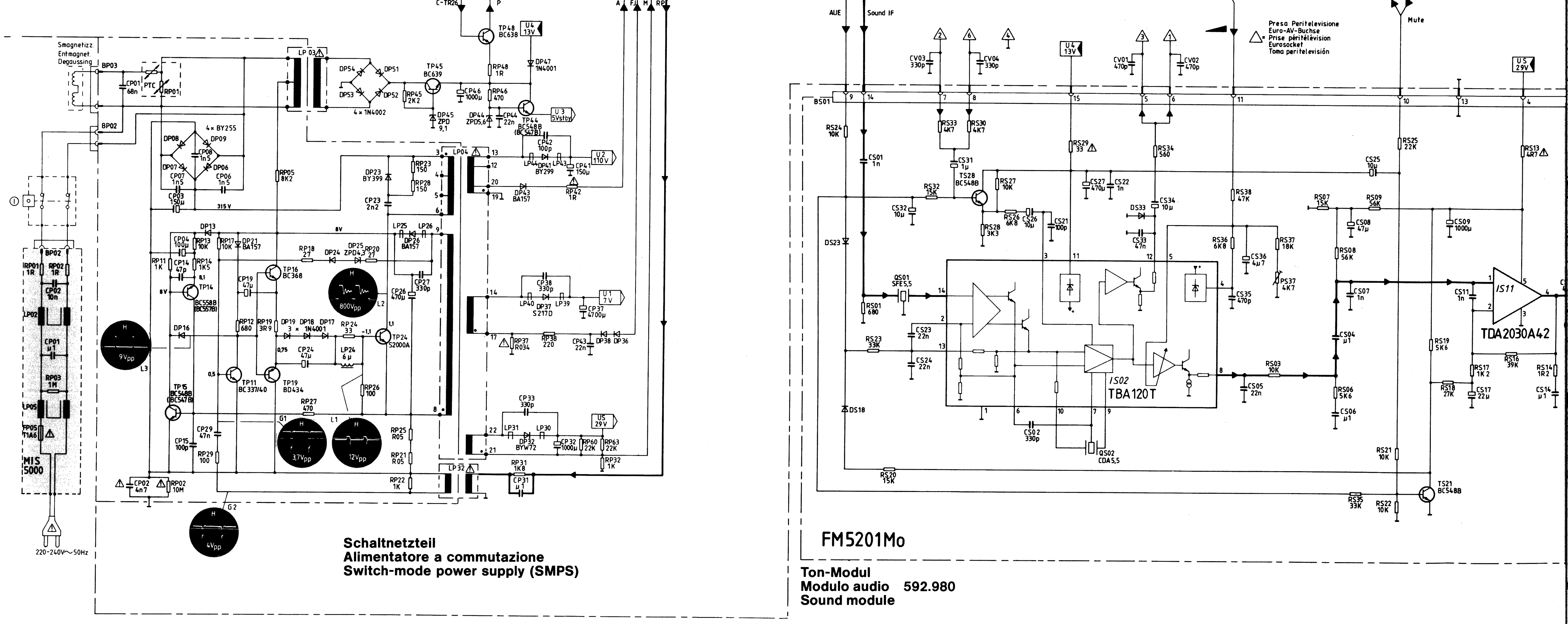
Computer Control 4
583.561

( ) = nur bei solo con only with Color 3031

○ = nur bei solo con only with Spectra 3201

Chroma-Video-Modul
Modulo crominanza video 592.730
Chroma video module


HF/ZF
AF/FI
RF/IF
VHF4100
276.798
UHF4100
276.799
IT20
TD6316AP
Decoder Driver
Decoder Propulsore
Latch Shiftreg 18Bit
Swallow Counter
Control
TT06,07,08 3×BC558B (3×BC557B)
I136
TDA 4443
CHV5301AM
IC01
TDA 4556
PAL/NTSC
Ident
Secam V/O/VO V/H/VH
Sandcastle impulso, p detet.
Service schalter servizio commut
burst Blank Suppressio
Secam ident
75Ω
Norm
HK
FBAS
Sound IF
IF
62,5KHz
AUE
Data
CK


Smagnetizz. Entmagnet. Degaussing
PTC
4×BY255
4×1N4002
MIS 5000
220-240V~50Hz
9Vpp
800Vpp
3,7Vpp
12Vpp
4Vpp
FM5201Mo
IS02
TBA120T
IS11
TDA2030A42
Presa Peritelevisione
Euro-AV-Buchse
Prise péritélévision
Eurosocket
Toma peritelevisión
Mute

Schaltnetzteil
Alimentatore a commutazione
Switch-mode power supply (SMPS)

Ton-Modul
Modulo audio 592.980
Sound module

△ = Euro-AV-Buchse
Presa Peritelevisione
Eurosocket

△1 NF/AF 'R' ⊖→ BF 'D' 0,5 V RMS
△2 NF/AF 'R' ⊖← BF 'D' 0,5 V RMS
△3 NF/AF 'L' ⊖→ BF 'S' 0,5 V RMS
△4 ⊥ NF/AF BF
△5 ⊥ Video B
△6 NF/AF 'L' ⊖← BF 'S' 0,5 V RMS
△7 Video B ⊖← 0,7 V RMS
△8 Mode AV ≙ 12 V
△9 ⊥ Video G/V
△10 X
△11 Video G/V ⊖← 0,7 V RMS
△12 X
△13 ⊥ Video R
△14 X
△15 Video R ⊖← 0,7 V RMS
△16 Blanking ⊖← Spegnim. Video
△17 ⊥ Video
△18 ⊥ Blanking Spegnimento
△19 Video ⊖→ 1 Vpp/75 Ω
△20 Video ⊖← 1 Vpp/75 Ω
△21 ⊥ Chassis Telaio

V RMS = V_{eff}
$V_{pp} = V_{ss}$

Achtung!

Bei Arbeiten am Schaltnetzteil Trenntrafo verwenden, und Messungen in diesem Bereich gegen Masse des Schaltnetzteils (Emitter TP 15) ausführen.

Attenzione!

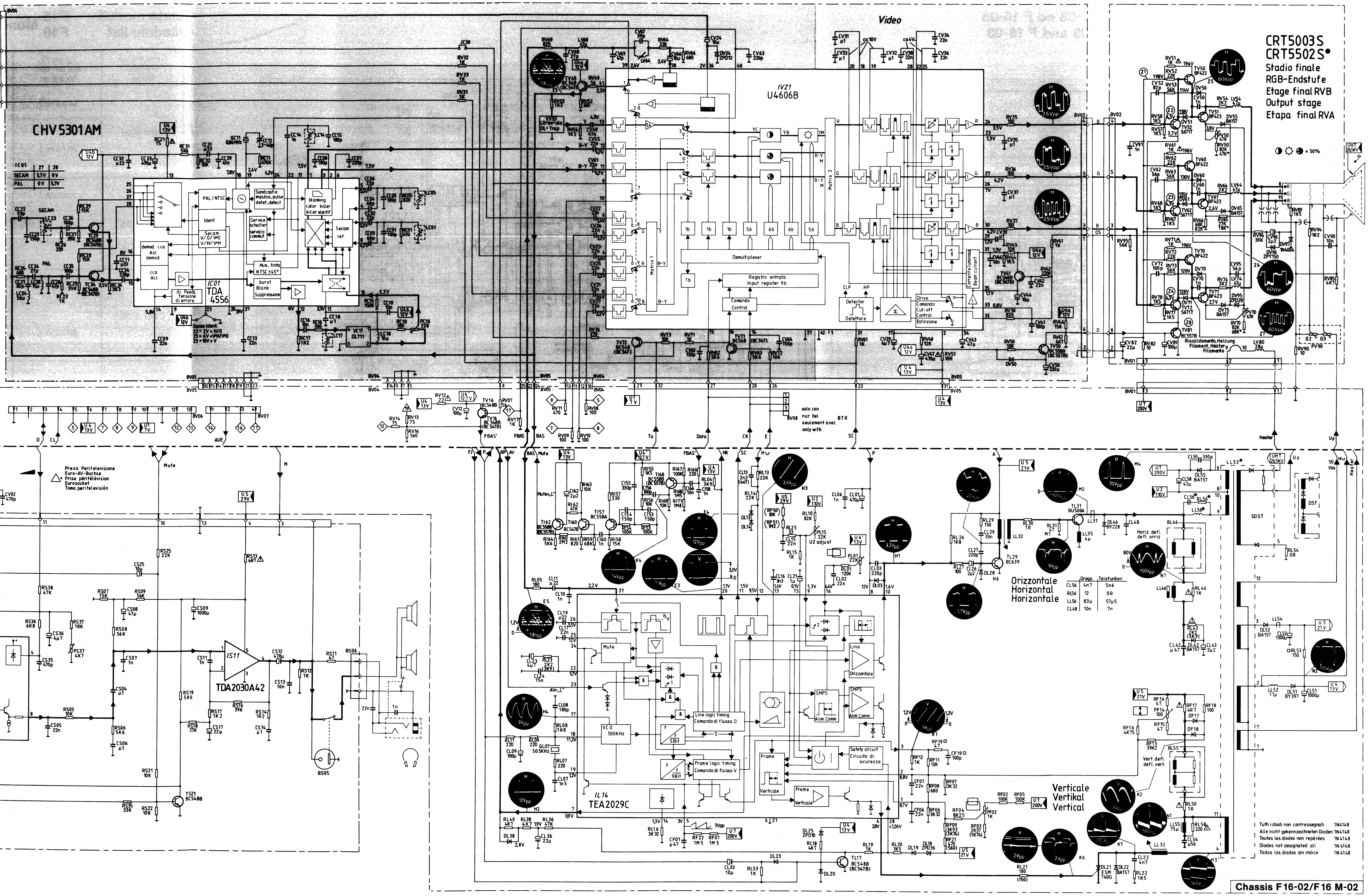
Per i lavori sull'alimentatore a commutazione, bisogna utilizzare un trasformatore separatore ed effettuare le misurazioni in questo ambito verso massa dell'alimentatore a commutazione (emettitore TP 15).

Attention!

When carrying out repair work on components in the primary circuit of the switch mode power supply (SMPS), an isolating transformer must be employed. Measurements to be taken against ground within the primary side of the SMPS (emitter of TP 15).

Chroma-Video-Modul
Modulo crominanza video **592.730**
Chroma video module

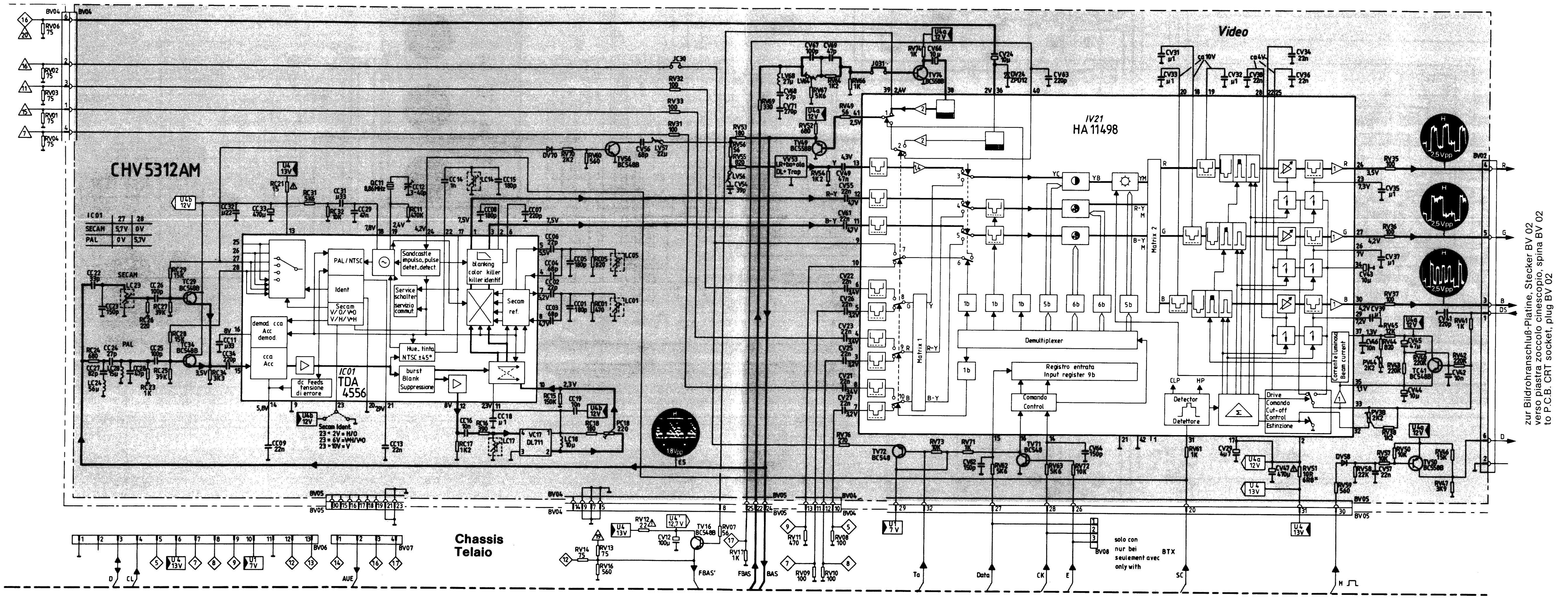
Bildrohranschluß-Platine
Piastra zoccolo cinescopio **592.977**
P.C.B. CRT socket


CHV5301AM
IC01 TDA 4556
PAL / NTSC
Ident
Secam V/O/V+O V/H/V+H
demod. cca Acc demod
cca Acc
dc Feeds tensione di errore
Sandcastle impulso. pulse detet. detect.
Service schalter Servizio commut.
Hue, tinta NTSC ±45°
burst Blank Suppression
blanking color killer killer identif
Secam ref.
Secam Ident. 23 = 2V = H/O 23 = 6V = H/V+O 23 = 10V = V
Video
IV21 U4606B
Matrix 1
Matrix 2
Demultiplexer
Registro entrata Input register 9b
Comando Control
Detector Detettore
Drive Comando Cut-off Control Estinzione
Corrente luminosa Beam current
CLP
HP
CRT5003S
CRT5502S•
Stadio finale
RGB-Endstufe
Etage final RVB
Output stage
Etapa final RVA
= 50%
Riscaldamento, Heizung Filament, Heater Filamento
Presa Peritelevisione
Euro-AV-Buchse
△ = Prise péritélévision
Eurosocket
Toma peritelevisión
Mute
solo con nur bei seulement avec only with
BTX
IS11 TDA2030A42
IL14 TEA2029C
Line Logic timing Comando di flusso O
Frame logic timing Comando di flusso V
VCO 500KHz
SMPS Alim. Comm.
Safety circuit Circuito di sicurezza
Line Orizzontale
Frame Verticale
Orizzontale
Horizontal
Horizontale
Verticale
Vertikal
Vertical
Horiz. defl. defl. orizz.
Vert. defl. defl. vert.
SDST
DST
U2 adjust
Tutti i diodi non contressegnati 1N4148
Alle nicht gekennzeichneten Dioden 1N4148
Toutes les diodes non repérées 1N4148
Diodes not designated all 1N4148
Todos los diodos sin indice 1N4148
Chassis F16-02/F16 M-02

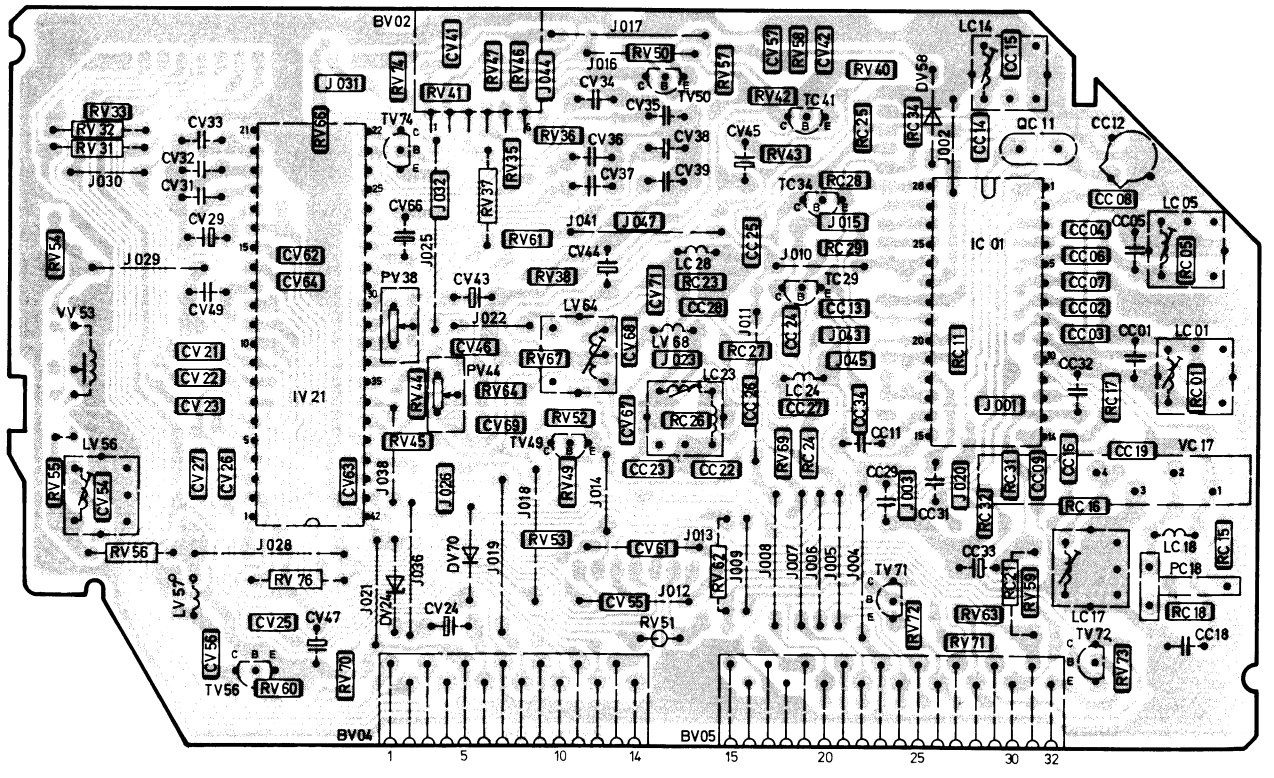
	Orega	Telefunken
CL56	4n7	5n6
RL56	12	0R
LL56	83µ	57µ5
CL48	10n	7n

Chroma-Video-Modul für Chassis F 15-03 und F 16-03
Modulo crominanza video per i telai F 15-03 ed F 16-03
Chroma video module for Chassis F 15-03 and F 16-03

Chroma-Video-Modul
Modulo crominanza video 592.780
Chroma video module



CHV5312AM
Video
IV21
HA 11498
IC01
TDA 4556
PAL/NTSC
Ident
Secam V/O/VO V/H/VH
demod. cca Acc demod.
cca Acc
dc Feeds tensione di errore
Sandcastle impulso..pulse detect..detect
blanking color killer killer identif
Service schalter servizio commut
Hue, tinta NTSC ±45°
burst Blank Suppressione
Secam ref.
Demultiplexer
Registro entrata Input register 9b
Comando Control
Matrix 1
Matrix 2
Detector Detettore
Drive Comando Cut-off Control Estinzione
Corrente luminosa Beam current
SECAM
PAL
2,5Vpp
zur Bildrohranschluß-Platine, Stecker BV 02
verso piastra zoccolo cinescopio, spina BV 02
to P.C.B. CRT socket, plug BV 02
Chassis
Telaio
solo con nur bei seulement avec only with BTX
FBAS
BAS
Ta
Data
CK
E
SC
AUE



BV02
BV04
BV05
IV 21
IC 01
1
5
10
14
15
20
25
30
32

Chroma-Video-Modul
Modulo crominanza video 592.780
Chroma video module
Lötseite – Lato saldature – Soldered side

Modulliste F 15
Lista moduli
Module list F 16 Mon

Gerätename Modello Model	Typen-Nr. No. del tipo Model nr.
Color 3031	986.526 J
	987.526 J
Color 3035	986.529 J
	987.529 J
Color 3038	986.563 J
	987.535 J
Color 3135	986.525 A
Spectra 3201	987.527 A
Spectra 3205	987.520 A

Nachrüstmöglichkeiten

Alle Mono-Farbfernsehgeräte mit dem Chassis
den folgenden Nachrüstsätzen ergänzt werde

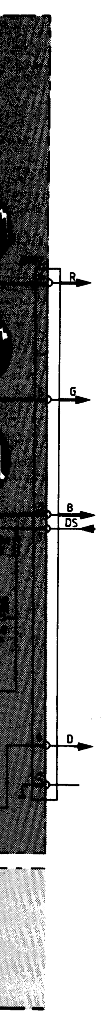
Artikel-Nr.	Teile-Art *	Nachrüs
986.581 A 00 (Nord)[1] 986.581 B 00 (Süd)[2]	V V	Videote mit 2 Se
279.963	K	Multista (SECAM
279.965	K	SECAM
279.983	K	DCCI zu Farbübe
987.682 A 00	K	erweiter Kanäle

[1] = Zeichengenerator für Nordeuropa (Deutschland, Großbritannien, Schwede

[2] = Zeichengenerator für Südeuropa (Deutschland, Frankreich, Italien)

*V = Vertriebsartikel

K = Kundendienstartikel



zur Bildrohranschluß-Platine, Stecker BV 02
verso piastra zoccolo cinescopio, spina BV 02
to P.C.B. CRT socket, plug BV 02

Modulliste
Lista moduli F 15 F 16 Mono
Module list

Gerätename Modello Model	Typen-Nr. No. del tipo Model nr.	Fernbedienung Telecomando Remote control	Infrarot-Vorverstärker Preamplificatore infrarossi Infra-red pre-amplifier	Bedienteilplatte Piastra sezione comandi Control unit board	Chassis-Nr. No. del telaio Chassis nr.	Chroma-Video-Modul Modulo crominanza video Chroma video module	Bildrohranschluß-Platine Piastra zoccolo cinescopio P.C.B. CRT socket	Ton-Modul Modulo audio Sound module	VHF-Leiterplatte Piastra VHF P.C.B. VHF	UHF-Leiterplatte Piastra UHF P.C.B. UHF	Netzfilter Bobina d'arresto Mains filter
Color 3031	986.526 J	Computer-Control 4 583.561	583.521 B	KDB 5200 M 592.756	F 16 M-01 ICC 5116 MM	592.730	592.977	592.980	276.798	276.799	527.436
	987.526 J	Computer-Control 4 583.561	583.521 B	KDB 5108 M 592.755	F 16 M-02 ICC 5116 MM	592.730	592.977	592.980 596 TX 2162*	276.798	276.799	527.436
					F 16 M-03 ICC 5116 MM	592.780					
Color 3035	986.529 J	Computer-Control 4 583.561	583.521 B	KDB 5200 M 592.756	F 15 M-01 ICC 5115 ML	592.730	592.977	592.980	276.798	276.799	527.436
	987.529 J	Computer-Control 4 583.561	583.521 B	KDB 5108 M 592.755	F 15 M-01 ICC 5115 ML	592.730	592.977	592.980 596 TX 2162*	276.798	276.799	527.436
					F 15 M-03 ICC 5115 ML	592.780					
Color 3038	986.563 J	Computer-Control 4 583.561	583.521 B	KDB 5108 M 592.755	F 15-01 / F 15-02 785.522 B 01 115-01	592.730	592.977	592.980	276.798	276.799	527.436
	987.535 J	Computer-Control 4 583.561	583.521 B	KDB 5108 M 592.755	F 15-01 / F 15-02 785.522 B 01 115-01	592.730	592.977	592.980	276.798	276.799	527.436
					F 15-03 785.522 B 03 115-03	592.780					
Color 3135	986.525 A	Computer-Control 4 583.561	583.521 C	KDB 5202 M 592.987	F 15 M-01 ICC 5115 ML	592.730	592.977	592.980	276.798	276.799	527.436
Spectra 3201	987.527 A	Computer-Control 4 583.561	583.521 B	KDB 5108 592.755	F 16-02 785.526 B 01 116-01	592.730	592.977	592.980	276.798	276.799	527.436
					F 16-03 785.526 B 03 116-03	592.780					
Spectra 3205	987.520 A	Computer-Control 4 583.561	583.521 B	KDB 5108 592.755	F 15 M-01 ICC 5115 ML	592.730	592.977	592.980 596 TX 2162*	276.798	276.799	527.436
					F 15 M-03 ICC 5115 ML	592.780					

*wahlweise
sostitutivo
alternative

Nachrüstmöglichkeiten

Alle Mono-Farbfernsehgeräte mit dem Chassis F 15 und F 16 können mit den folgenden Nachrüstsätzen ergänzt werden:

Artikel-Nr.	Teile-Art*	Nachrüstung
986.581 A 00 (Nord)[1] 986.581 B 00 (Süd)[2]	V V	Videotext mit 2 Seitenspeichern
279.963	K	Multistandard (SECAM L + NTSC)
279.965	K	SECAM L (Frankreich)
279.983	K	DCCI zur Verbesserung der Farbübergänge
987.682 A 00	K	erweiterter Sonderkanalbereich, Kanäle S 21 – S 41 (Hyperband)

[1] = Zeichengenerator für Nordeuropa (Deutschland, Großbritannien, Schweden)

[2] = Zeichengenerator für Südeuropa (Deutschland, Frankreich, Italien)

*V = Vertriebsartikel
K = Kundendienstartikel

Possibilità di corredamento

Tutti i televisori a colori Mono con il telaio F 15 o F 16 possono essere completati con i seguenti set di corredamento:

Numero di consegna	Tipo di componente*	Corredamento
986.581 A 00 (Nord)[1] 986.581 B 00 (Sud)[2]	V V	Videotel con 2 memorie di pagina
279.963	K	Multistandard (SECAM L + NTSC)
279.965	K	SECAM L (Francia)
279.983	K	DCCI per ottimizzare le transizioni di colore
987.682 A 00	K	Ambito di canali speciali espanso, canali S 21 – S 41 (Hyperband)

[1] = Generatore di segnali per Europa del Nord (Germania, Gran Bretagna, Svezia)

[2] = Generatore di segnali per Sud-Europa (Germania, Francia, Italia)

*V = Articoli di vendita
K = Articoli servizio assistenza

Modification available

For CTV-sets fitted with the chassis F 15 and F 16 the following retrofit-sets are available:

Part Nr.	Article sales code*	Retrofit-Set for
986.581 A 00 (North)[1] 986.581 B 00 (South)[2]	V V	Teletext with 2 page storage
279.963	K	Multi-Standard (SECAM L + NTSC)
279.965	K	SECAM L (France)
279.983	K	DCCI module for Colour Contour Improvement
987.682 A 00	K	Extended special channel band Channels S 21 – S 41 (hyper-band)

[1] = Character-Generator for Northern Europe (Germany, Great Britain, Sweden)

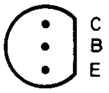
[2] = Character-Generator for Southern Europe (Germany, France, Italy)

*V = Sales-Article
K = Service-Article

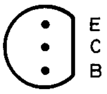
Sockelschaltungen

Circuiti a zoccolo

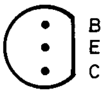
Socket connections



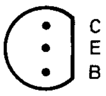
BC 328-40
BC 337-40
BC 547 B/C
BC 548 B/C
BC 557 B/C
BC 558 A/B/C



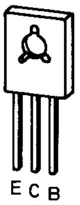
BC 368
BC 638
BC 639
BF 422
BF 423



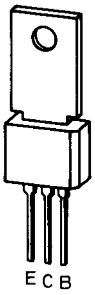
BF 763
2 SC 2512



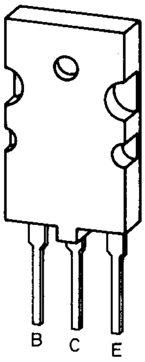
BF 959



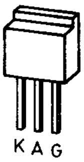
BD 434



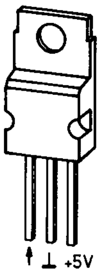
S 671 T



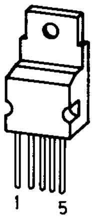
BU 508 A
S 2000 A



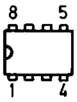
ESM 7406



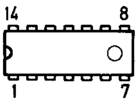
MC 7805 CT



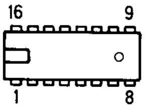
TDA 2030



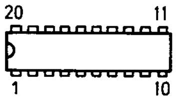
TEA 2031 A



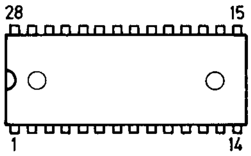
MDA 2061
TBA 120T



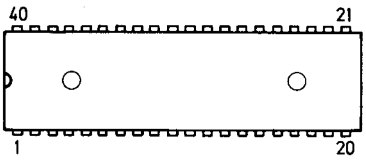
TDA 4443



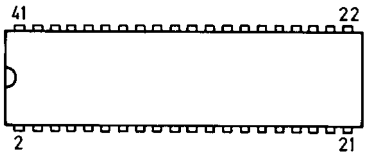
M 3005
TD 6316 AP



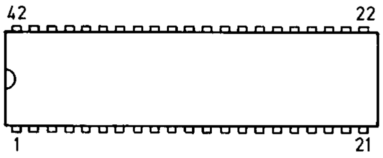
TDA 4556
TEA 2029 C



CCU SER 06



U 4606 B



HA 11498

NORDMENDE